VOL. 87 NO. 11

C677
T35b

textile bulletin

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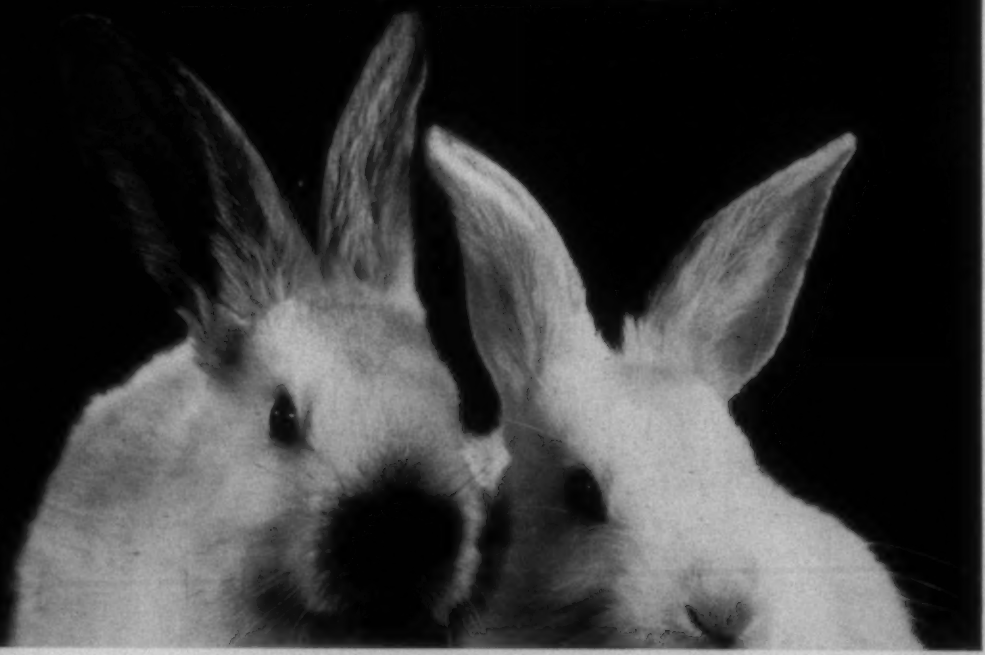
BPA NBP

About West Point Slashers,

Production Specialists agree...



When it comes to slashing more warp, the West Point Pacesetter is the industry leader. Sales prove the story... more than 300 West Point slashers have been sold in the last five years. Go to West Point for slashers! West Point Foundry & Machine Company, West Point, Ga.

Write for free booklet on West Point's Pacesetter Slasher

Call **BATSON** first next time – your best source for all supply items, capital equipment and repair parts from opening through finishing

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☐	**Edward Kusters, Textile Machinery**	Calenders and Mangles with non-deflecting "Swimming Roller" • "Vibrotex" Open Width Washers • Back Grey Washers • Aquaroll Extraction Mangles
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☐	**Southern Plastics Company**	Moulded and Extruded Plastic Parts and Assemblies • Harness and Dobby Sheaves • Plastic Pickers, Harness Strapping and Cords, Lug Straps and Bumpers.
☐	**Textile Wearplates, Inc.**	Composite Metal Wear Plates and Strips for movable parts, give up to 100 times the wear of standard parts.
☐	**T. J. Murphy Fur Company**	Shuttle Fur and Creel Pads – Sheepskin, Oppossum, Muskrat
☐	**The Portland Company**	Chapman Static Eliminators for all types of materials and applications.

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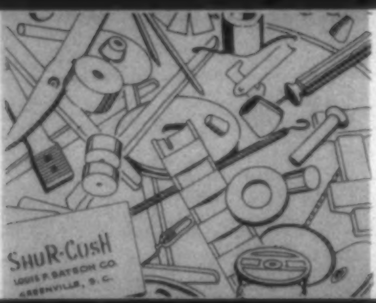
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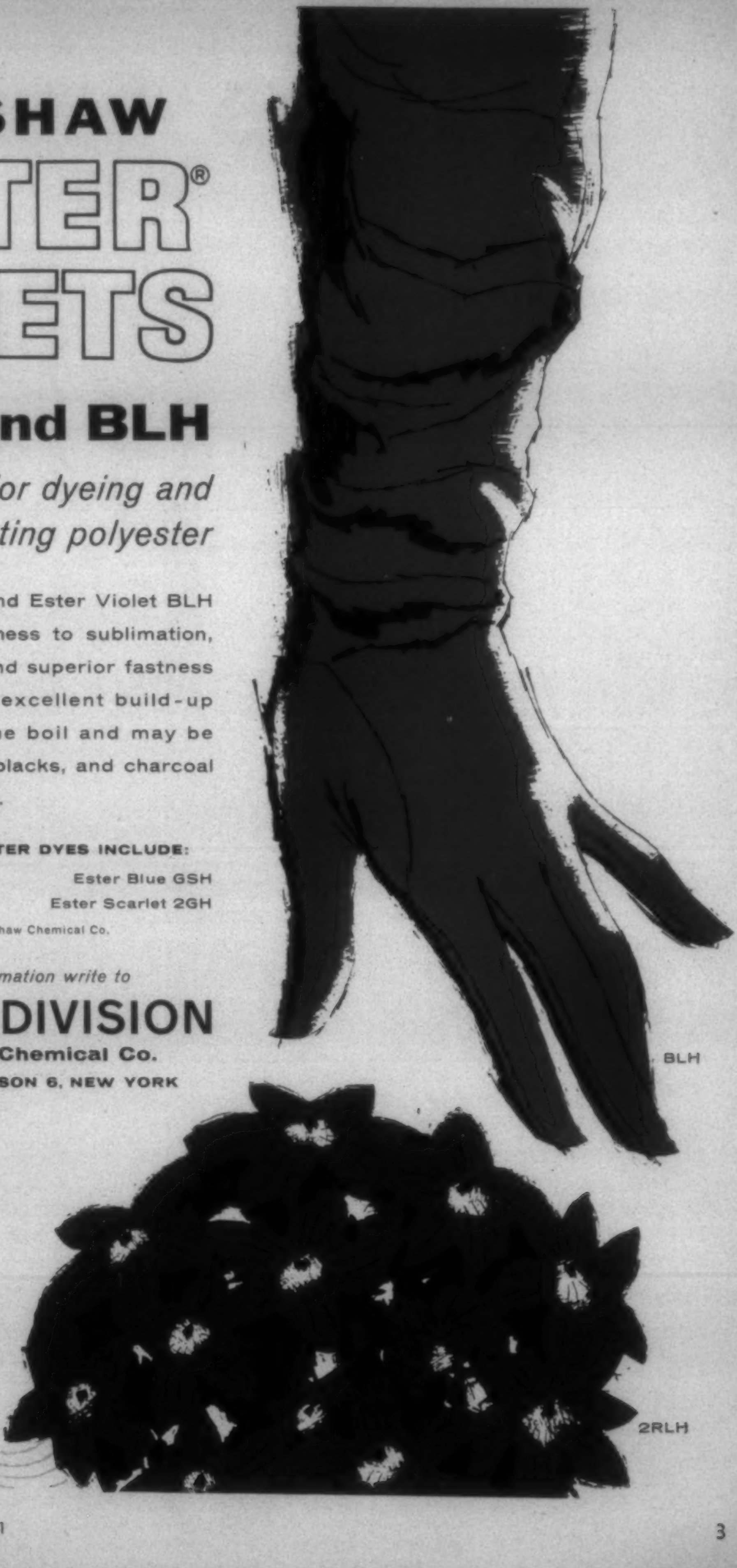

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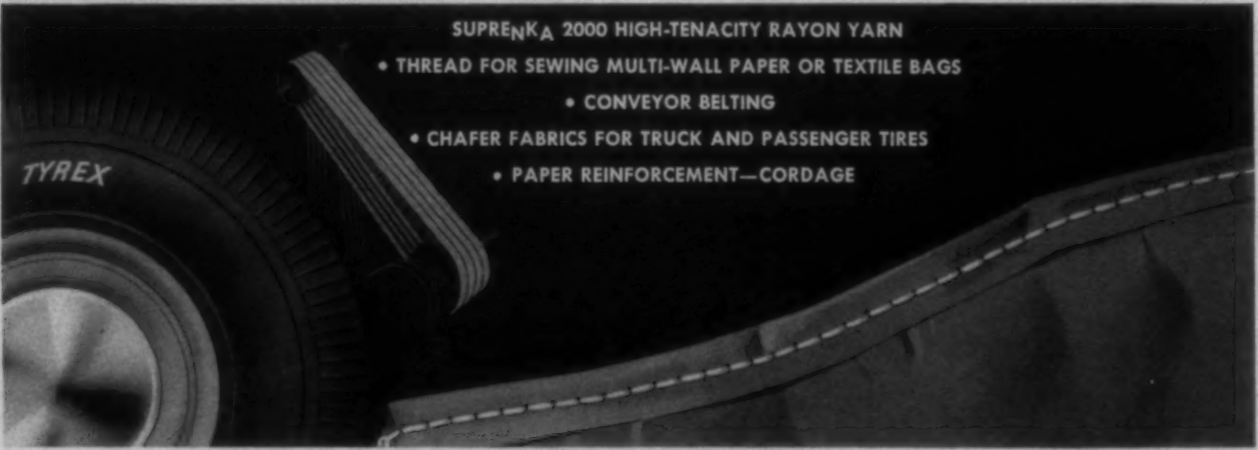
No job is too tough for Suprenka, Enka's high-tenacity, low-cost industrial rayon yarns—yarns made stronger to last longer. Name the job, and you'll find a superior Suprenka yarn engineered to handle it smoothly, efficiently, economically.



SUPRENKA 2000 HIGH-TENACITY RAYON YARN
- THREAD FOR SEWING MULTI-WALL PAPER OR TEXTILE BAGS
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- PAPER REINFORCEMENT—CORDAGE

New! American Enka Launches High Modulus Industrial Yarn Called SUPRENKA® Hi Mod™

This new high-tenacity rayon yarn has been engineered for end-uses where high modulus, negligible wet or thermal shrinkage, and high strength are required.

Suprenka Hi Mod provides excellent stability during processing because of its low shrinkage when heated or moistened, and in use the new yarn has low growth under load.

Contact Industrial Sales Dept., American Enka Corporation, Enka, N. C. MOhawk 7-1311 or 350 Fifth Avenue, New York 1, N. Y. PE 6-2300 or the District Sales Office nearest you.

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BEST YARN QUALITY

RUGGED SIMPLICITY

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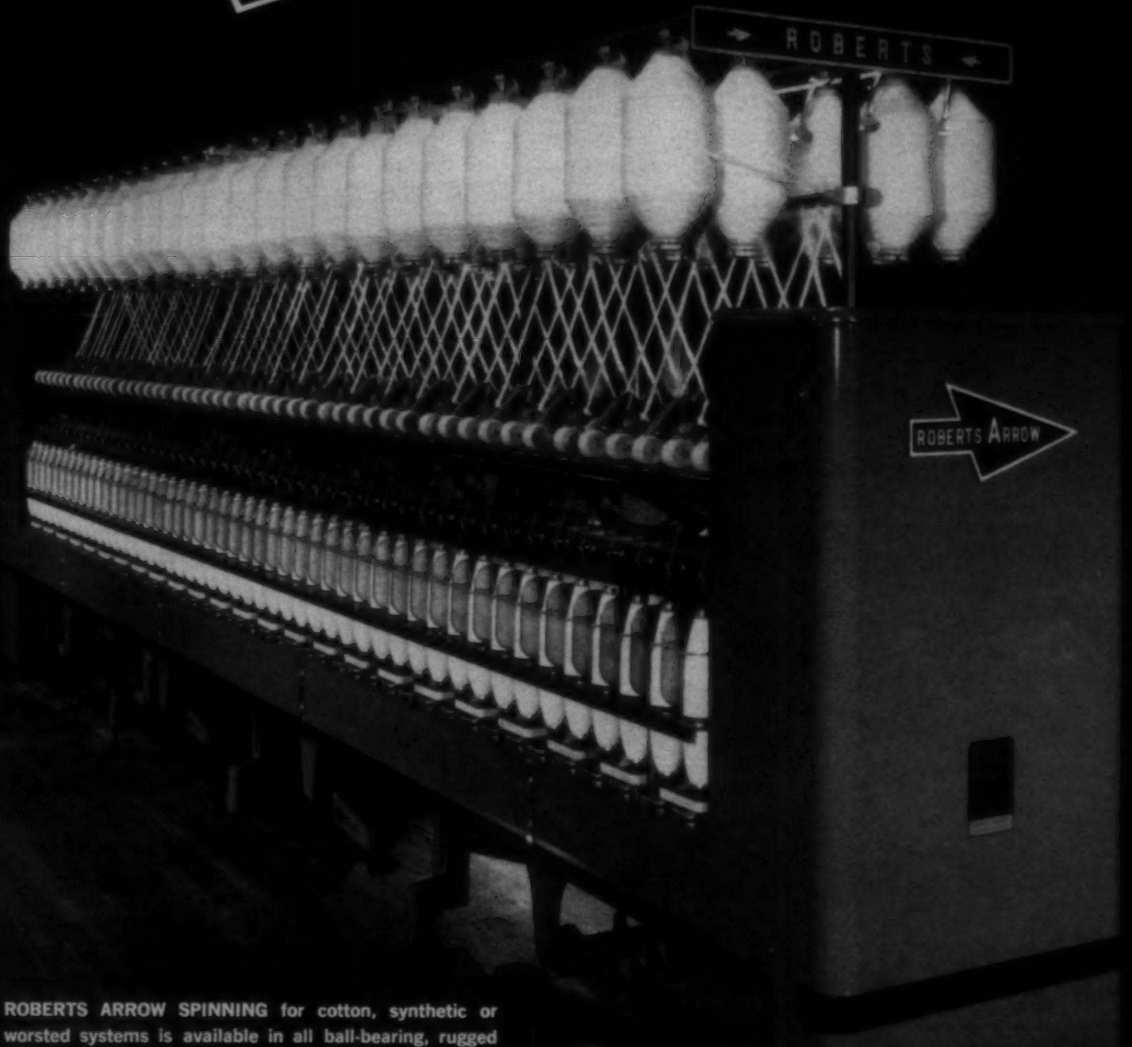

ROBERTS ARROW SPINNING for cotton, synthetic or worsted systems is available in all ball-bearing, rugged long-life frames of 25-inch or 36-inch width. More than 1,500 Arrow Frames are in mill operation.

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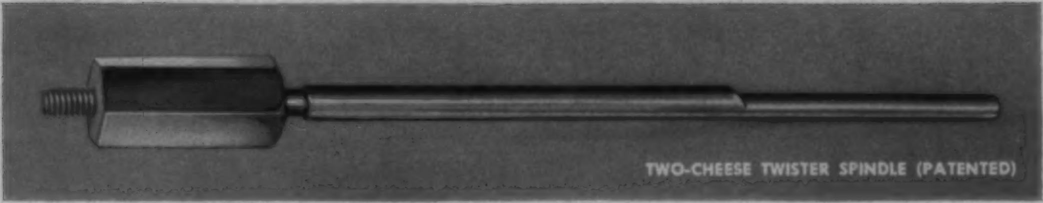
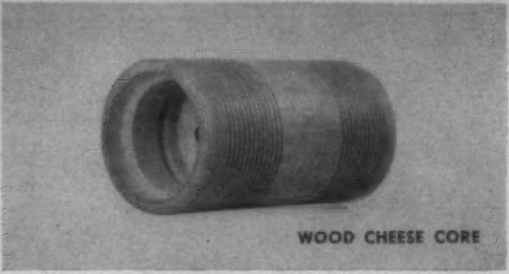
BARBER-COLMAN ACCESSORIES


TWO-CHEESE TWISTER SPINDLE (PATENTED)


WOOD CHEESE CORE

STAINLESS STEEL DYE SLEEVE

BAKELITE CHEESE CORE SLEEVE

USE THESE BARBER-COLMAN PRODUCTS FOR BEST RESULTS

The accessories shown here are carefully designed and developed by Barber-Colman Company for use on Barber-Colman machines. • The Twister Spindle, used with wood Cheese Cores, is a new idea that makes for better twisting. The offset on the end of the spindle retains the outer cheese and lets it run free of the inner one. Thus, by mounting two cheeses per spindle, the height of the twister creel is reduced. • The stainless steel Dye Sleeves fit the same holders on the Automatic Spooler as the regular plastic Cheese Sleeves and were designed and developed exclusively for this Barber-Colman machine. • Since all of these parts are made of best materials to very close limits, they not only are accurate, uniform, and durable, but also insure *top performance* of your machines.

BARBER-COLMAN SERVICE WILL KEEP YOUR MACHINES AT THE PEAK OF PRODUCTION

For many years Barber-Colman Company has maintained a high-grade Service Department, and made its facilities available to all owners of Barber-Colman equipment at reasonable cost. The men who staff this Department are all experienced hands, trained to handle the special problems of Barber-Colman equipment. They are backed by the knowledge and experience of the entire Barber-Colman organization. You can employ this Service in any manner you wish — on a regular contract basis, for specific problems, or in any emergency. *See your Barber-Colman representative for details.*

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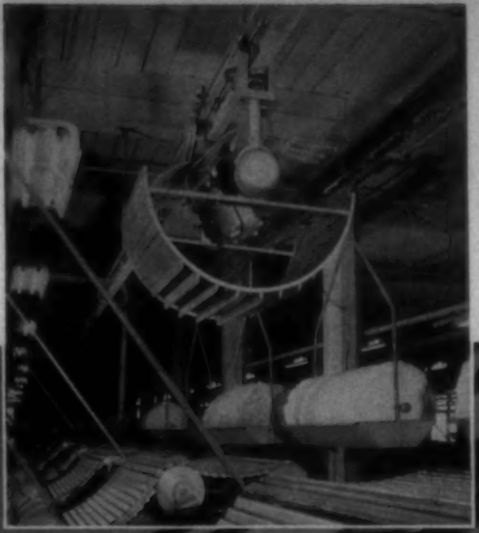
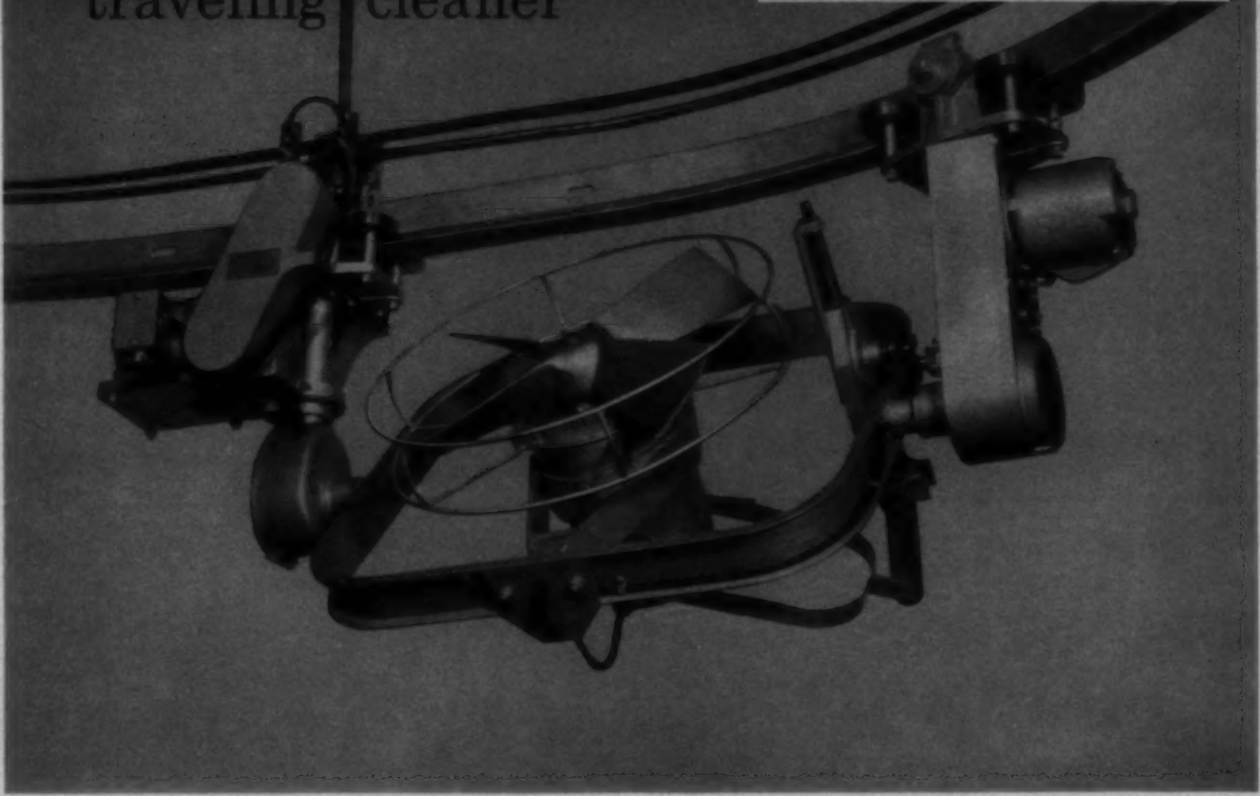
To the mill man who wants maximum overhead cleaning



Bahnson Aero-Sweep traveling cleaner



You get maximum overhead cleaning with the Aero-Sweep Cleaner because:

- it cleans the objective more thoroughly with head-on air blasts at ½ the distance of other cleaners.
- it cleans all objects throughout cleaning cycle at predetermined frequency.
- only Aero-Sweep has an exclusive patented indexing feature which sets the cleaning pattern for any area, prevents lint accumulation on all surfaces.

You clean your mill at less cost with Aero-Sweep because:

- one Aero-Sweep Cleaner cleans up to three times the area covered by other cleaners.
- it ends manual blow-down by removing lint from ceilings, walls, overhead equipment.
- it minimizes slubs and gouts, improves quality of product.

For details, see **free illustrated** Bulletin 21A.
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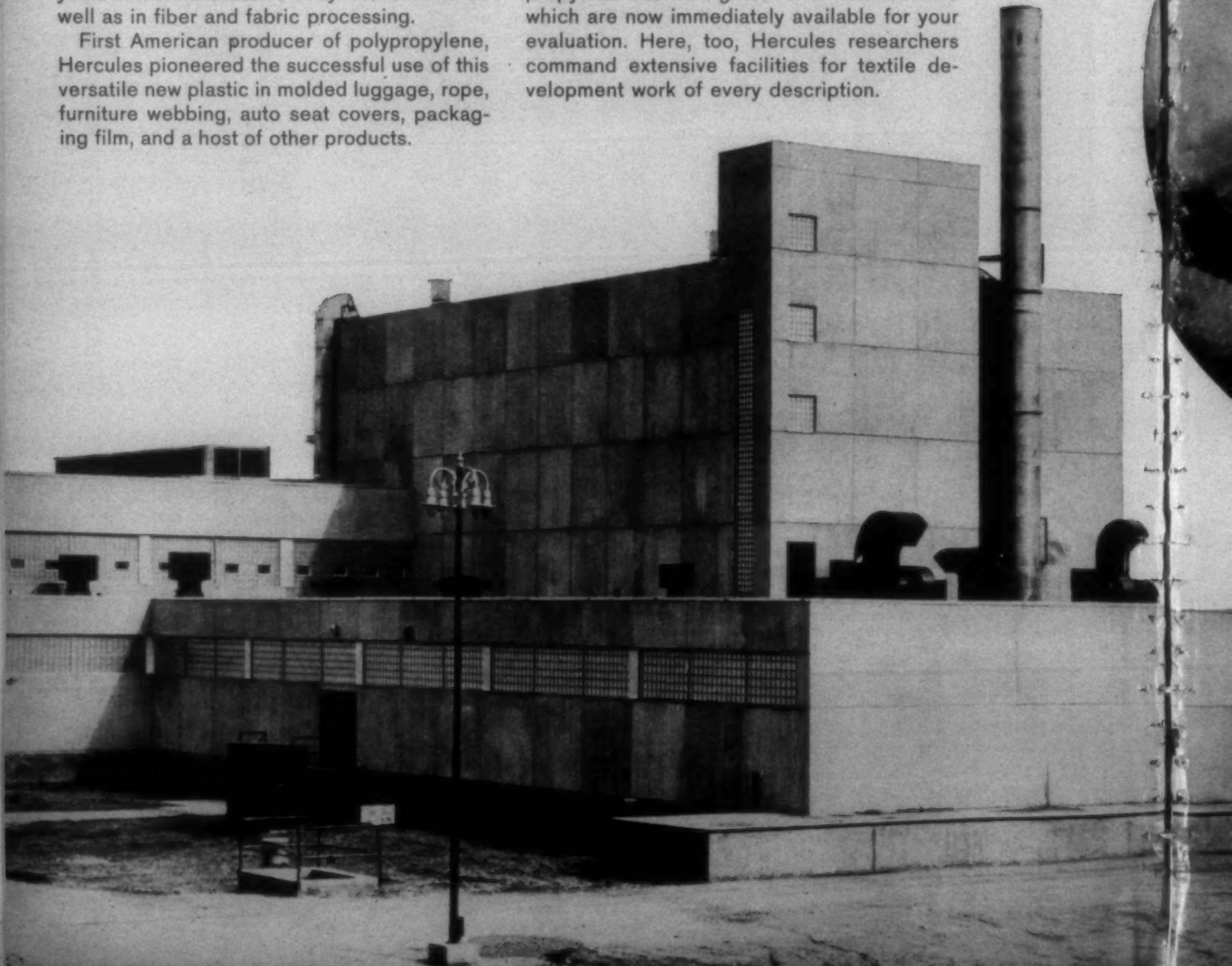
No strangers to the textile industry, Hercules products have been used for more than 35 years in the manufacture of synthetic fibers as well as in fiber and fabric processing.

First American producer of polypropylene, Hercules pioneered the successful use of this versatile new plastic in molded luggage, rope, furniture webbing, auto seat covers, packaging film, and a host of other products.

Now on stream, this new Hercules plant at Covington, Virginia, is spinning Hercules polypropylene into the lightest of all textile fibers which are now immediately available for your evaluation. Here, too, Hercules researchers command extensive facilities for textile development work of every description.



POLYPROPYLENE

olefin fiber

Hercules... FIRST commercial producer of polypropylene in the United States, now leads the way in the commercial production of polypropylene fiber

IT'S HERE... first commercial polypropylene fiber, available as continuous multifilament yarn, staple, and tow. It's Hercules polypropylene, the new olefin fiber destined to become the new star in textile constructions... and cost reductions. So light it actually floats, Hercules polypropylene provides greater coverage per pound than any other fiber. It's strong and tough, rates high in resistance to mechanical abuse and chemical attack.

The variety of constructions made with Hercules polypropylene fiber in cooperative studies has already won high acclaim from technicians and designers. We invite you to share in the profitable future of this new fiber—and welcome the opportunity to work with you on product development. To aid you in evaluating markets, ask for detailed physical properties, denier tables, comparative coverage data, and other facts about Hercules polypropylene fiber.

FP61-1

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the COCKER SD-49 Spindle Driven Warper

A Battery of SD-49's in one of the World's Finest Mills

The Cocker SD-49 is especially designed to handle large, heavy section beams with any type yarn from finest deniers to heaviest tire cord yarns. It produces warps of any desired density at speeds up to 1000 YPM. Here are some of its outstanding advantages.

CONSTANT SPEEDS

An adjustable rheostat permits the selection of any desired speed. This speed is maintained by Cocker's extremely accurate system which measures the RPM of the presser roll instead of using less sensitive controls which are based on pressure or buildup. DC or clutch type motors provide smooth and gradual acceleration.

CONSTANT DENSITIES

Presser roll travel is in a horizontal plane to assist in providing a constant density during beam buildup. A large capacity pneumatic cylinder and an indicating gage permit operator to accurately adjust the loading of the roll against the beam and achieve any desired result.

DOUBLE-END BRAKING

Carrier and presser rolls and driving jackshaft have rheostat-controlled electro-magnetic brakes. The jackshaft brake applies braking action TO BOTH ENDS OF THE BEAM and prevents beam damage due to sudden stops—an exclusive Cocker feature.

VIBRATIONLESS OPERATION

The base of the SD-49 is heavy machined cast iron and all components, side frames, presser roll assembly, drive, etc. are mounted on it. This rugged construction permits vibrationless speeds up to 1000 YPM.

Specifications

- Standard Capacity 36″ dia. x 54¼″ width beam. Other diameters and widths available.
- Electric pre-determining counter clock
- Electric speed indicator
- Collecting eyeboard in back of machine
- Positive zig-zag front expansion comb
- Pushbutton controls on both sides of machine
- Loading and doffing by pneumatic cylinder

Write for Full Information

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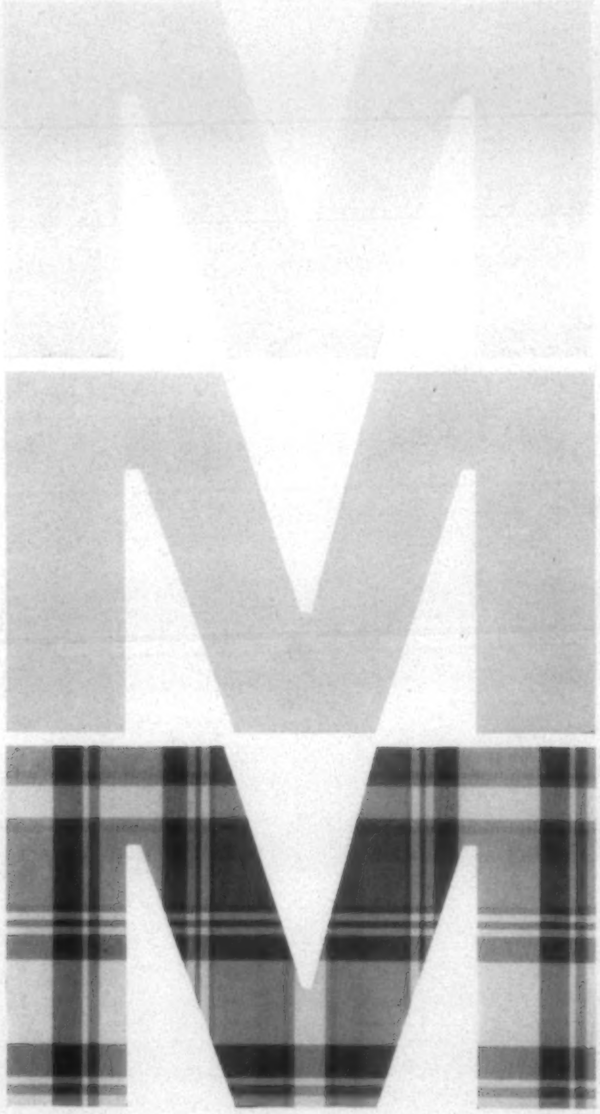
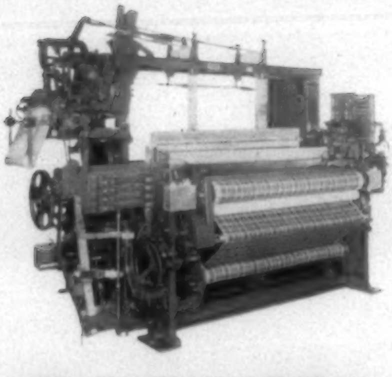
MAINTENANCE COSTS on the C-7 Loom are reduced because many mechanical assemblies have been eliminated. Not only are there fewer critical adjustments to get out of order but also less replacement part expense and delay.

A few wires and switches have literally replaced 100 parts. Gone are most mechanical driving, shipping and protection levers and linkages, and much of the warp stop motion. Drive units are out in the open, easy to service.

In addition, the C-7 operates more smoothly so that there is less wear and tear on the loom. Better binder control prolongs life of pick motion parts, and the electric brake allows soft stops—even protection stops—to reduce fixing.

Weavers, fixers and plant supervisors have been impressed that the C-7 requires so little down time for maintenance. Its potential savings make maintenance one of the most important of our six control areas. Write us if we might discuss it further with you, or if you'd like a reprint of any in this series you may have missed.





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QUALITY OF CLOTH · SPEED OF LOOM
EFFICIENCY · WEAVER ACCEPTANCE
MAINTENANCE COSTS · TRAINING TIME

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costs come down

with the CARTER

"Supreme" traveler

yarn quality goes up

Yes . . . you pay more for Carter's "Supreme" plated traveler, but you get profit-performance that justifies the name.

Problems of rust — nep control — excessive traveler changes and down time . . . are met and solved with the cost-cutting "Supreme" traveler. Pioneered by our own metallurgical laboratories . . . incorporating all of the traditional CARTER craftsmanship and quality — the "Supreme" traveler makes a material contribution to the production of finer, stronger yarn — made and sold . . . *profitably!*

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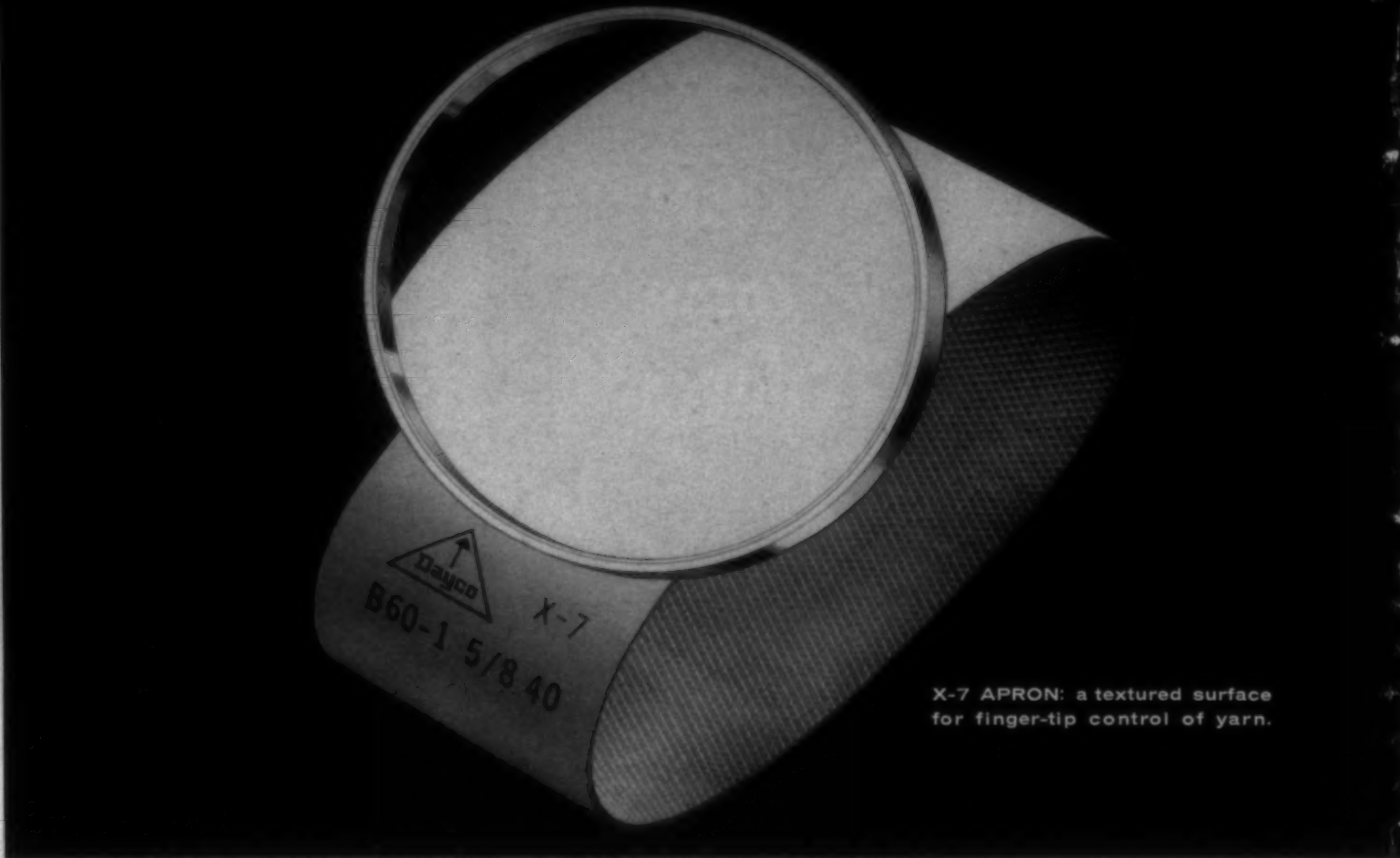
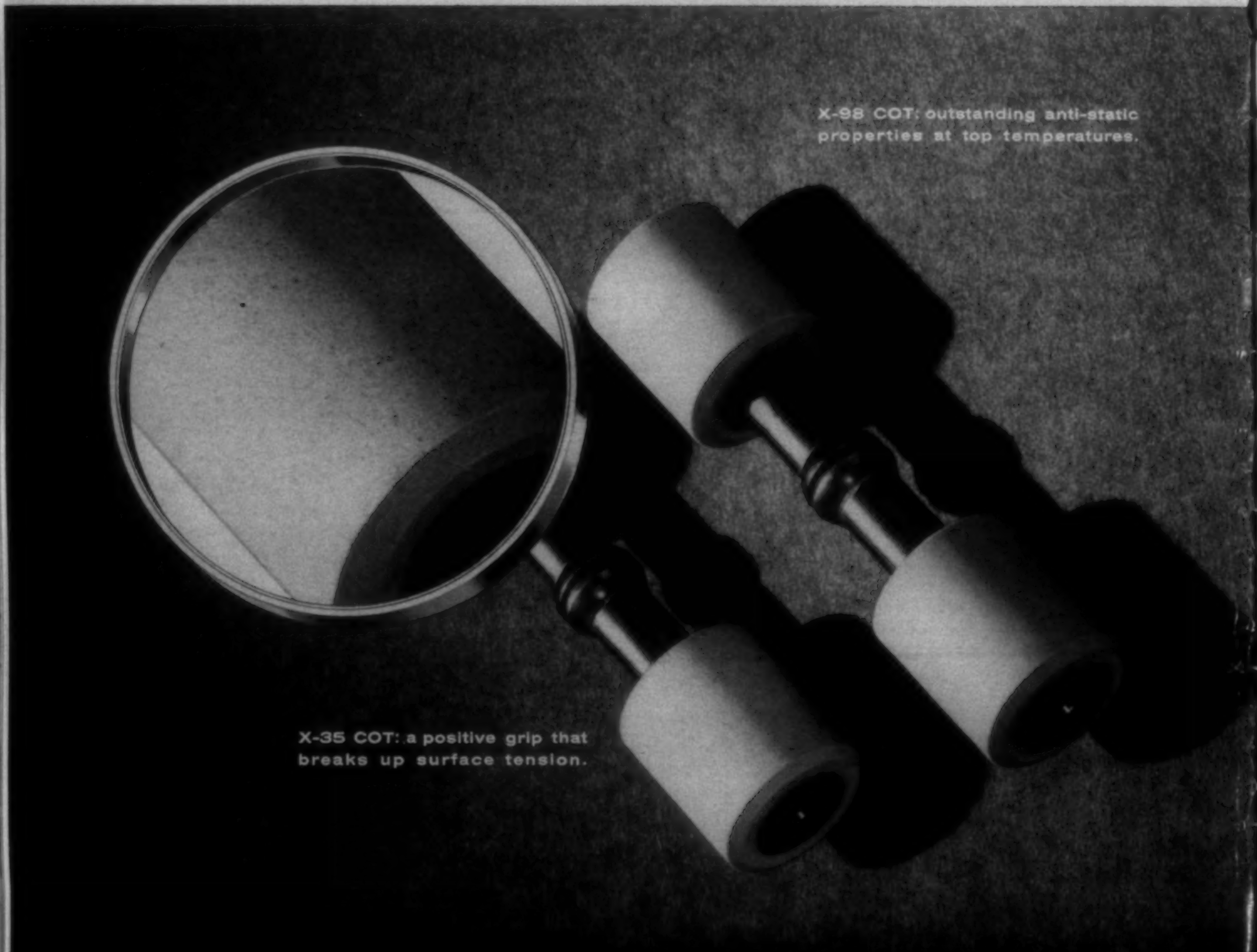


X-7 APRON: a textured surface for finger-tip control of yarn.



X-98 COT: outstanding anti-static properties at top temperatures.

X-35 COT: a positive grip that breaks up surface tension.

New Ingredients and Special Surface Texture Make These Dayco Aprons and Cots Superior

Cash outlay for aprons and cots is but a small part of the cost involved in the spinning operation, yet use of the right apron and cots combination can do much to increase efficiency. Before you place your next order, add to your file of information on superior aprons and cots these facts about the new Dayco X-7 apron . . . Dayco's X-35 and X-98 cots:

FINGER-TIP CONTROL OF FABRICS

Dayco's X-7 apron, readily identified by its pink color and triangle imprint, has, as the micro-photo inset makes clear, an amazing skinlike surface that permits unusual control of fibers of every type. And the X-7 combines with its efficient handling of fibers many other qualities equally important.

It offers exceptionally high resistance to ozone checking as well as lengthwise cracking caused by flex. Its resilience and sturdiness are equally impressive, enabling the Dayco X-7 to meet, fully and satisfactorily, the demands of modern drafting.

POSITIVE GRIP FOR BETTER DRAFTING

Visual inspection of Dayco's X-35 cot, intended primarily for use on the back line, reveals that it contains somewhat finer particles of material than are usually found in cots of medium Shore hardness.

Many such cots, because of their larger cell structure and comparative softness, lack sufficient tensile strength. But Dayco's X-35 does not. While providing a positive grip that breaks up surface tension, it also meets all other standards of fine performance.

NEW INGREDIENTS PERFECTLY COMBINED

Like Dayco's X-7 apron, the X-98 cot, recommended for front-line use, derives its superiority from a new formulation. The anti-static properties retained by the X-98 even at high temperatures deserve special mention. Its durability is also noteworthy, as is the top-quality yarn it helps deliver.

Originally developed to meet the problems of a particular mill experiencing heat build-up, the X-98 is typical of Dayco's approach to customer service. Demand for the X-98, as word of it traveled from mill to mill, has made it an important new item in Dayco's complete line of cots.

GO DAYCO ALL THE WAY

Whether a few, or whether hundreds of thousands of a product are marketed, Dayco research and quality control are constantly at work. A fine field staff stands ready to answer any questions you may have about the suitability of any Dayco product for a given assignment.

Put the best to work for you in the best possible way, with the help and advice of your Dayco representative! Phone or write Dayco Textile Products, 401 South Carolina National Bank Building, Greenville, S. C.; Overseas plant: Dundee, Scotland.

Dayco
TEXTILE PRODUCTS
Dayco
Divison of Dayco Corporation

WHITIN HAS A WAY WITH TWISTERS

...in Novelty Yarns

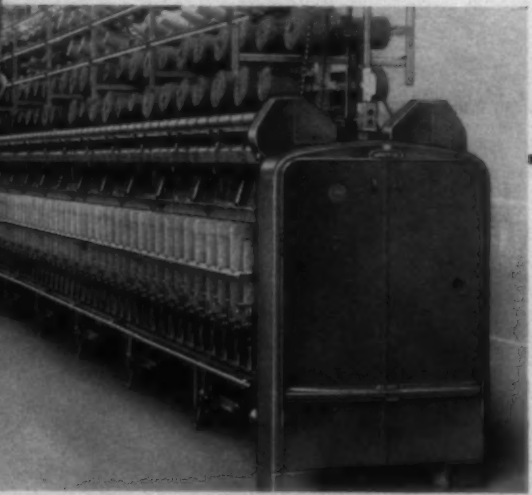
KING SIZED packages mean KING SIZED savings!

King-sized packages made on a Whitin Pacemaker Twister carry up to four times as much Novelty Yarn as those on an average twister.

These giant packages — the result of combining the productive capacity of the Pacemaker Model P Twister with the flexibility of the Type C1 Novelty Yarn Attachment, make possible king–sized savings, too — savings such as: a major reduction in knots; sizeable reductions in doffing and maintenance time; and greater production per square foot of floor space.

The Pacemaker Model P is a competitive, high speed, skillfully-built Twister capable of producing, with little or no loss in operating speed, bobbins of 11" traverse and up to 5" in diameter, using 5½" diameter rings.

The famous Whitin Type C1 Novelty Yarn Attachment already has an established reputation for excellent performance based on its precision, its simplicity and its versatility.



FEATURES:

- **Fewer knots**
- **Reduces doffing time**
- **Reduces maintenance time**
- **Greater production per square foot of floor space**
- **High-speed operation**
- **Duplex Splash Yarn and Rocker Motions — optional**

In bringing together this unusual cost-cutting combination, Whitin effectively meets today's increasing need for large knotless packages in the heavy fabric field — for products such as domestic upholsteries, automobile fabrics, rug yarns and draperies.

See your nearest Whitin representative for details.

WHITIN

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

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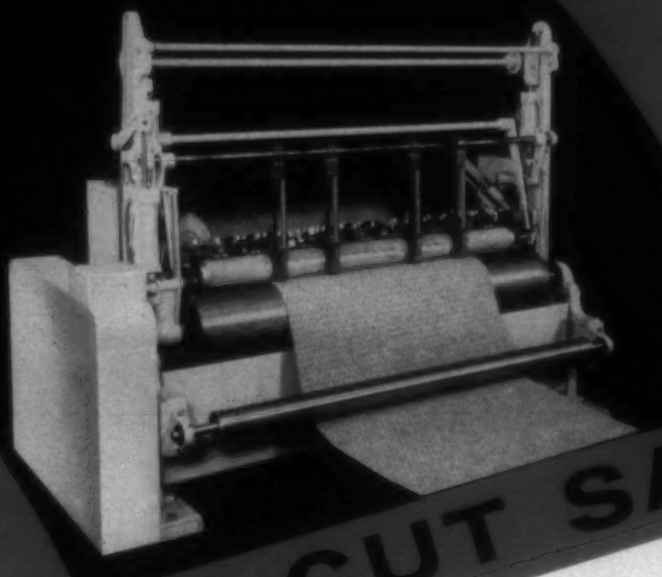
The best way to better yarns



CLEAN CUT SAVINGS

with the new EMCO Rotary Cutter-Winder

An EMCO cuts clean and even, at dead-stop or at speeds to 125 yards per minute, without the usual soiling of ends that often occurs in completing one roll and starting another. Saves the refinishing of 40 to 50 yards of fabric. Handles up to 194″ widths.

Use it for knit goods, for woven or non-woven materials, plastic and vinyls either plain or embossed, foam goods plain or laminated, woven fiberglass, tufted carpeting.

The full story on the pneumatically-operated EMCO Rotary Cutter-Winder is yours for the asking . . . send for Bulletin 903B.

Partial List of Users

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Paterson, N. J.
Burlington Industries, Inc.
Greensboro, N. C.
Vanity Fair Mills, Inc., Monroeville, Ala.
H & F Binch Co., Glens Falls, N. Y.
The United Piece Dye Works
Charleston, S. C.

BUTTERWORTH

VN
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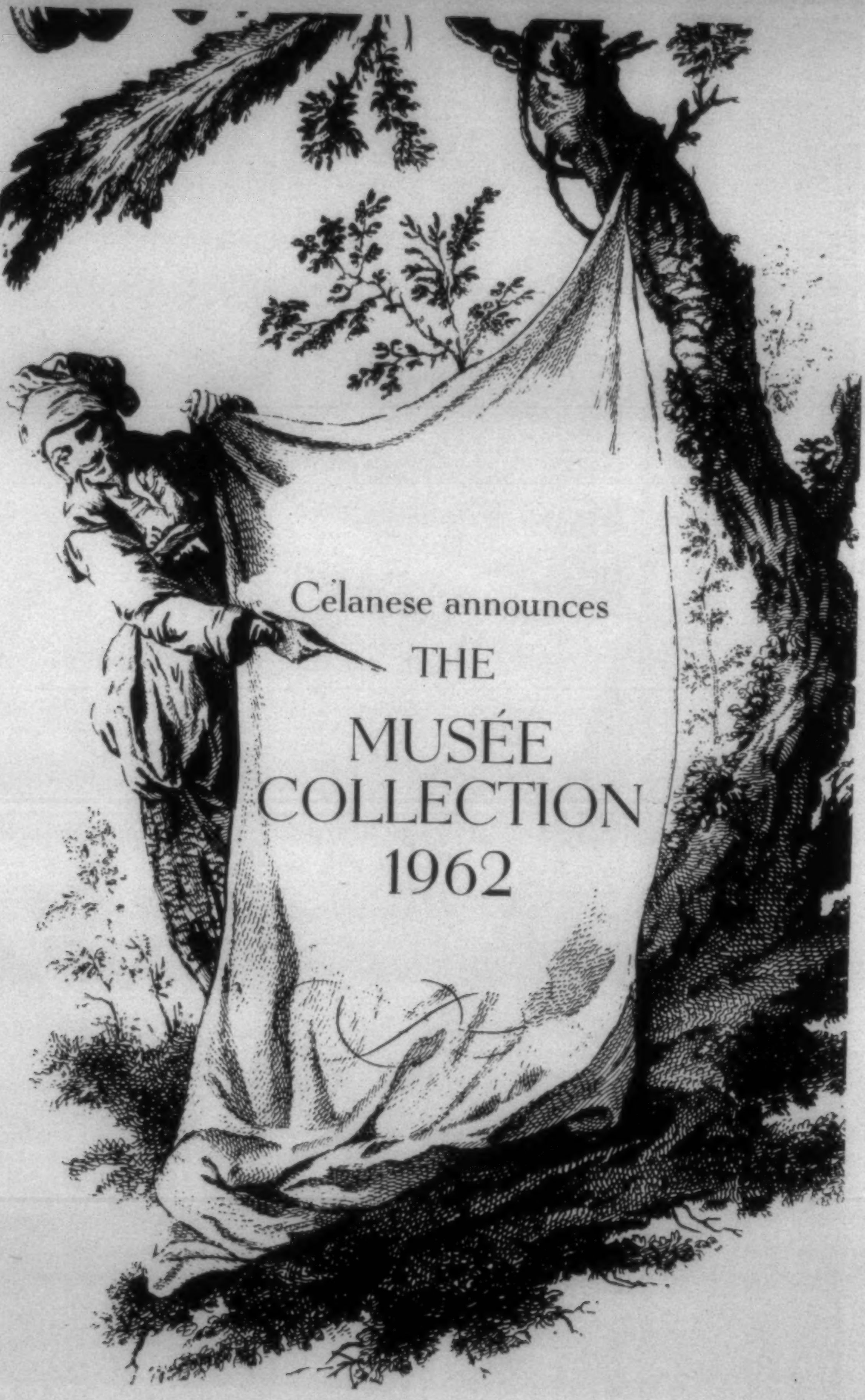
Bethayres, Pennsylvania. ***Division of Van Norman Industries***

In the South: Industrial Heat Engineering Co., Greenville, S. C.
In the North: United States Supply Co., E. Providence, R. I.


Celanese announces
THE
MUSÉE
COLLECTION
1962

Celanese discovers a fabulous museumful of historic fabric designs to inspire magnificent new decorative fabrics for The Musée Collection . . . Celanese 1962 home furnishings promotion.

From the archives of the Musée De L'Impression Sur Étoffes in Mulhouse, France, come fabrics predating the French revolution. This museum is the only one in the world devoted entirely to textile printing. Its collection has been preserved over the centuries, was hidden away in the French countryside during the war, is reassembled now in the museum and brought to light at last by Celanese. The collection includes carefully authenticated documents, historic commemorative fabrics, rare tapestry designs and thousands more as yet untouched for commercial use. Celanese has been privileged to take exclusive photographs of these treasures and will make them available to converters for translation into fabrics with Celanese Contemporary Fibers. And we will back these fabrics in '62 with every promotional resource at our command. Celanese promotions build fabric demand. Look for even greater demand for fabrics for The Musée Collection—1962 promotion. Be ready for it! Celanese Fibers Company, 522 Fifth Avenue, New York 36

(a division of Celanese Corporation of America)

Celanese®

Celanese contemporary fibers

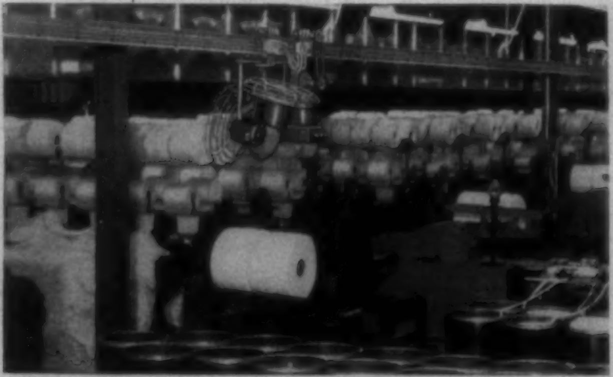
Now...keep your work areas clean automatically, with specially designed Amco Cleaners!

Amco has developed a wide selection of automatic cleaning equipment . . . designed to cut down manual cleaning, improve quality, and step up mill production.

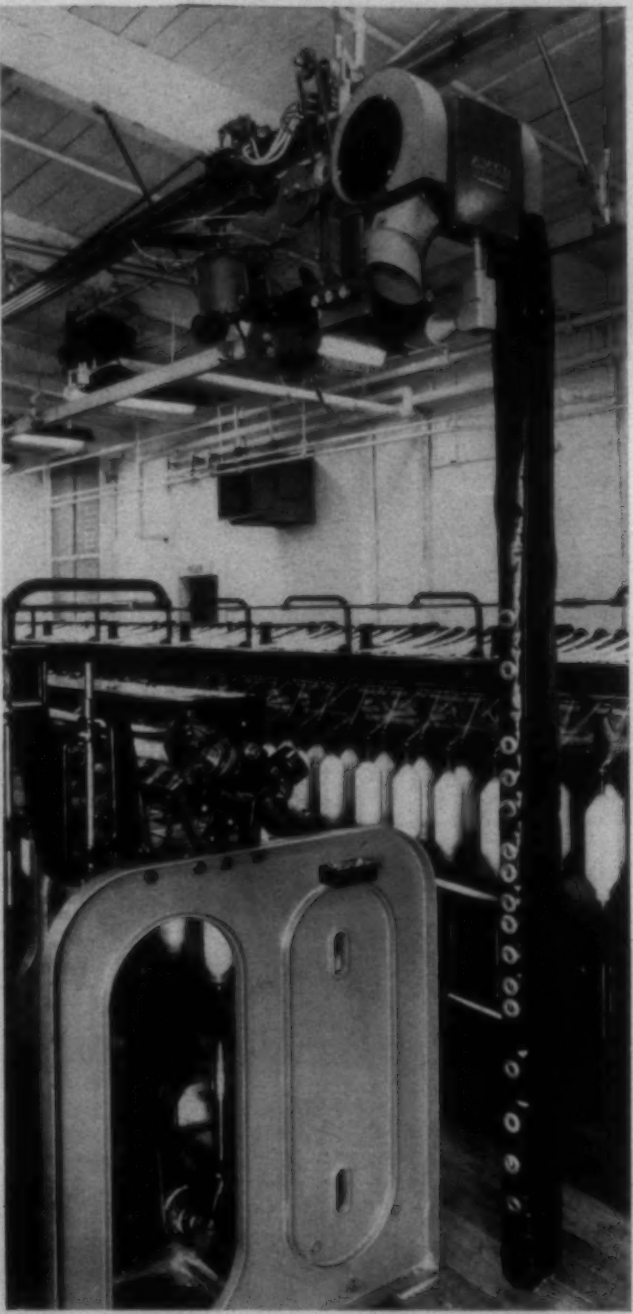
For money-saving facts about Amco Cleaners, call American Moistening Company — an organization with more than 70 years' experience serving the textile field.

Helicone Loom Cleaners improve quality of fabrics by preventing waste accumulation on stop motions, drop wires, harnesses and reed caps.

Amco Loom Cleaners over Draper shuttleless looms. Sheeting is being woven at high relative humidity.



Amco Ceiling Cleaner provides automatic cleaning of ceiling, beams, walls and other surfaces. Excellent for card room areas.



Amco's electronically controlled Roving Frame and Ceiling Cleaner. Air delivery boot takes care of specific lint-collecting trouble spots.

AMCO

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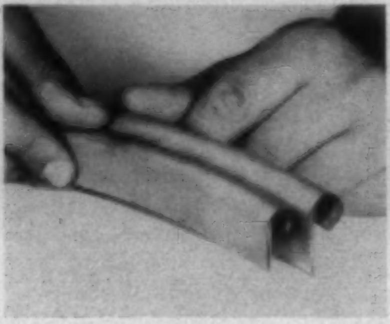
For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

Roving Can Top Ring Has Double Strength



New top ring is twice as strong as earlier design.

A new top ring for roving cans which is two to three times stronger than the former design has been introduced by National Vulcanized Fibre Co., Wilmington, Del.

The ring, introduced on N.V.F.'s seamless 20" roving cans, is made of 2" wide 14-gauge galvanized steel as compared to 1½" wide 16-gauge galvanized steel used on the earlier design. The shape of the ring is also changed to provide additional strength and withstand unusual strain.

(Request Item No. K-1)

Reactive Red For Cellulose

Cibacron Brilliant Red BD, a new reactive dye especially developed for printing cellulosic fibers, has been introduced by Ciba Co., Fair Lawn, N. J.

It is designed to produce reds of extreme color brilliance, or when applied in combination with Cibacron yellow brands, very bright scarlet shades.

Cibacron Brilliant Red BD possesses very good solubility and build-up properties and exhibits good light fastness. It is fast to water, washing and perspiration.

The print pastes show good stability. The unfixed dye can readily be washed off without white areas being stained. Prints are fixed by conventional methods. The dye can be used for direct printing on natural and regenerated cellulose fibers and for producing colored resists with aniline black.

It is also used as a dyeing type and pastel depths are dischargeable to white. The prints and dyeings are suitable for rubberizing, p.v.c. coating and synthetic resin finishing.

(Request Item No. K-2)

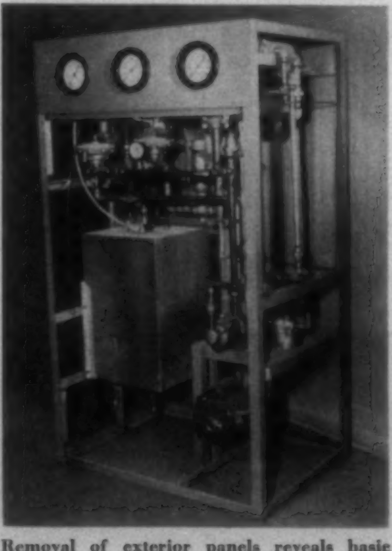
Modified Nemo Jet Cooker

Corn Products Sales Co., New York City, which recently acquired patent rights to the Nemo jet automatic starch cooker, is offering a modification of the original Nemo design. Design of the new Nemo permits modification of starches during warp-size cooking and makes possible substantial price savings on starch consumed, according to the company.

In either continuous or intermittent operation, warp sizes produced in the modified Nemo cooker are formulated to exhibit much less setback than equivalent fluidity starch batch-cooked in open kettles.

With minor adjustments in slurry cycling and instrument control, the unit is designed to operate more smoothly than ever, with excellent uniformity of viscosity.

The modified unit is completely self-contained, with slurry pump and small process supply tank. Accessories are available for special applications and provide for softener or conditioner injection and paste flash-chamber at the size box.



Removal of exterior panels reveals basic simplicity of modified Nemo unit. Square tank stores quantity of slurry, is equipped with high/low level indicators.

Operating principles remain the same and are based on intimate mixing of steam and slurry at pre-selected pressures and volumes in an in-line Schutte-Koerting injection heater. The resultant instantly-gelled paste passes to a small high/low level, probe-activated process supply tank. Controls provide for setting at a wide range of temperatures and volumes—offering versatility for all ranges of warp sizing and finishing operations.

Tied in with a bulk handling and automatic slurry preparation system, the new Nemo can completely automate size preparation and handling, from railcar to size box.

The unit measures 36" wide by 27" deep and is 65" high. It is priced less than formerly and is offered at manufacturer's cost as a service to Corn Products customers. In cases where space limitations or accessibility present special difficulties, the cooker may be sectionalized and mounted over-head or along walls with no sacrifice in utility or efficiency. Corn Products assists in the installation, which requires only hook-up to existing steam, air, slurry and electrical outlets—plus supporting brackets when sectionalized—and will also assist in the start-up.

(Request Item No. K-3)

Fiber Tester

A new high speed tester capable of determining the tensile properties of single fibers at elongation rates in excess of one million percent per minute has been developed by Fabric Research Laboratories, Dedham, Mass., for Celanese Corp. of America, Summit, N. J.

The significance of the new tester is that it operates within the range of velocities and strain rates that fibers are subjected to during processing from the fiber through to the finished fabric stage. At present the tester is being operated in the lower regions of processing velocities but reliable predictions can be made of fiber performance at the upper

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limits of processing speeds. Plans are underway to modify the tester to operate at the higher speeds approaching 150 feet per second.

The basic design of the equipment consists of a gas-driven piston with a crystal force transducer for a load cell, and has incorporated in the system an oscilloscope for recording the information.

The tester has proved useful for examining viscoelastic properties of fibers as a function of testing rate, particularly at the combinations of higher strain level and short time experienced in processing which are not obtainable by conventional testers.

(Request Item No. K-4)

Spiral Fluorescent Tube

Duro-Test Corp. of North Bergen, N. J., manufacturer of fluorescent and incandescent bulbs and electronic equipment, is offering what it describes as the first major change in fluorescent lighting in more than 20 years—a new bulb known as Power-Twist.

Its cross-section, instead of being round, is pear-shaped. This unique spiral configuration is said to produce the longest and most powerful arc stream of any tube design since it creates the greatest excitation of phosphor inside any fluorescent bulb.

The new bulb is designed to fit all existing fluorescent fixtures in most sizes commonly used. When viewed in uncovered fixtures, it creates a visual effect similar to glare-reducing louvers, Duro-Test claims. This is said to save on fixture cost and reduce cleaning maintenance while permitting highest footcandles.

(Request Item No. K-5)

Humidifier Cleaner

Humidex tablets, a chemical treatment designed to keep humidifiers clean and in efficient working condition, have been introduced by the Stewart-Hall Chemical Corp. of Mount Vernon, N. Y. They are designed to stop the formation of scale and algae which clog working parts of humidifiers, thereby preventing humidification and causing water overflow due to stuck float valves.

Stewart-Hall reports that the tablets are effective in all types of humidifiers including wick type, electric and atomizing humidifiers. Treatment consists of dropping the tablets into the water reservoir of a humidifier every six to eight weeks. Dosage varies from two to four tablets, depending upon the hardness of local water.

(Request Item No. K-6)

Flameproofing Agent

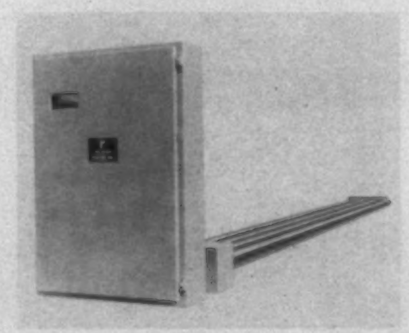
A new type of flameproofing agent labeled Flameproof No. 462 is being marketed by Apex Chemical Co., Elizabethport, N. J.

Designed to flameproof acetate as well as other synthetic fibers such as nylon and acrylics, it is a clear liquid compound which reportedly emulsifies readily in water and gives excellent results on 100% synthetic fabrics which normally cannot be satisfactorily flameproofed.

Product application is recommended in the dyebath operation since the flameproofer is exhausted onto the fiber in the same manner as dyestuff. Formula for acetate is 15% owf. Other synthetic fibers require larger amounts. The product is not applicable to cotton or rayon fabrics.

(Request Item No. K-7)

Electric Immersion Heaters



Radcor Inc., a subsidiary of Edwin L. Wiegand Co. at Fostoria, Ohio, has introduced a new series of unitary electric immersion heaters for storage tanks. Designated Type RST, the automatic heaters are assembled complete with a tank adaptor box and weatherproof control panel consisting of circuit breaker, contactors, selector switches, control relay, over-temperature control and two-step indicating thermostat. The heating elements are inserted in seamless steel pipes. The all-welded assemblies are pre-wired and delivered ready for immediate installation.

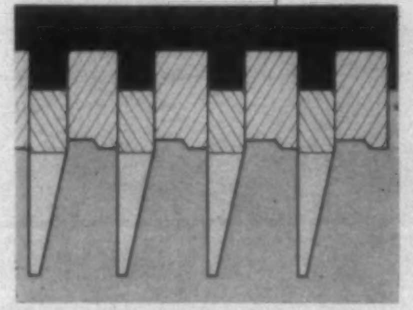
The heaters are installed through a rectangular hole cut in one end of the tank after internal supports for the heater pipes on 10′ centers are provided on the tank floor. The tank adaptor box is then welded to the wall of the tank and three leads are connected to the master circuit breaker.

The heaters, of low-watt-density, are primarily intended for sensitive materials and certain chemicals. However, elements of higher watt densities for other materials may be used.

Standard models range from 15 to 72 k.w. for 240 and 480 volts, 3-phase, with heated lengths of 15′ to 26′. Equivalent capacities in shorter lengths are available for vertical tanks. Special physical sizes and kilowatt capacities may be made to order.

(Request Item No. K-8)

Card Reclothing System

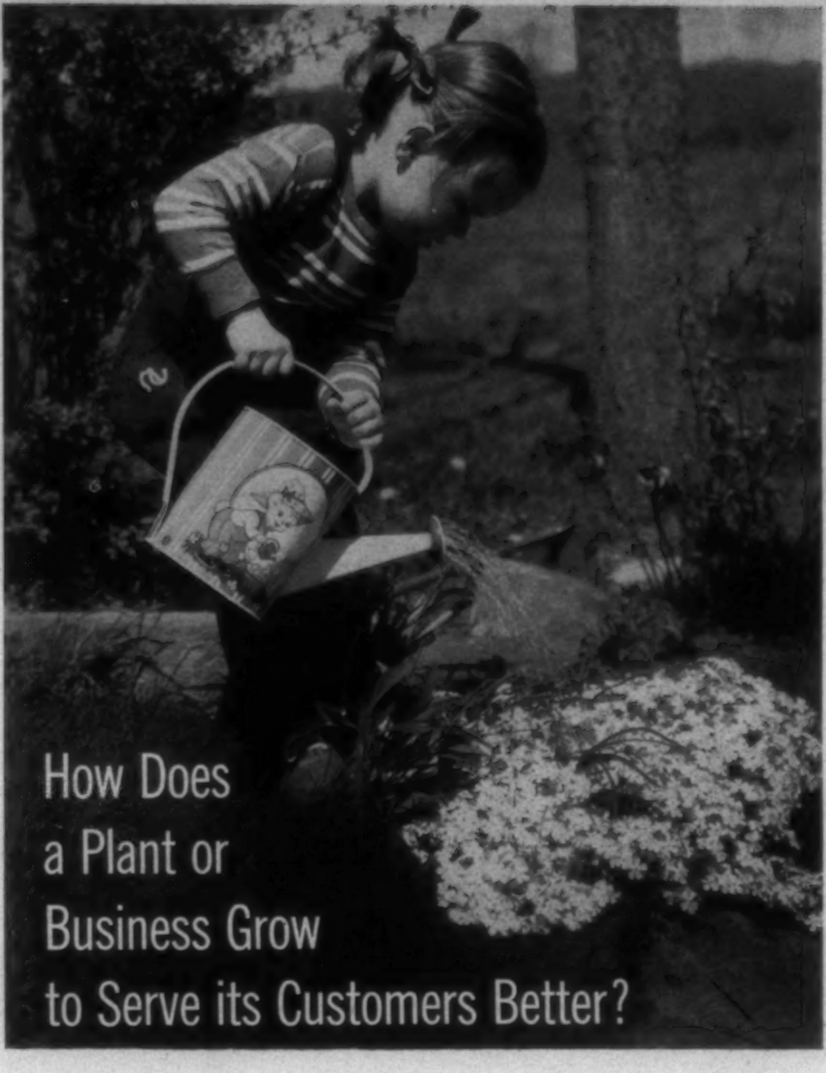


Wire is wound on top of clean cylinder, securely "locked-in" by caulking, can't uncoil. In reclothing, cylinder-wall-loss is insignificant.

The James Hunter Machine Co., North Adams, Mass., has announced an exclusive clothing and reclothing wiring system for garnett cylinders of any make. Known as the Hunter Sur-Lok System, it is designed to combine the best features of surface-wound and groove-wound reclothing, with none of their disadvantages.

Its unique features include the maintenance of cylinder diameters during reclothing as in surface-wound systems, and a new caulking process which "locks-in" garnett wire, preventing uncoiling as in groove-winding.

Hunter claims that Sur-Lok cylinders last longer and can take more reclothings. No poppet adjustments after reclothing are necessary, nor do cylinder speeds change. The garnett wire, available in sizes 6-18, is evenly laid. Wound



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on top of a clean cylinder, it lies flat, and its points are uniformally sharp. The wire is as strong, or stronger, than that previously used. In many thread sizes, the wire's base thickness has been increased for extra strength.

The new method of wire caulking is designed to end the problem of loose garnett wires. Sur-Lok reclothed cylinders stand more severe use, give uniform dependable service and save on cylinder replacement, according to Hunter.

(Request Item No. K-9)

Hydrazinium Softeners

Moretex Chemical Products of Spartanburg, S. C., has developed a new process for the manufacture of the non-yellowing hydrazinium based textile softeners marketed under the trade name of Aquazine.

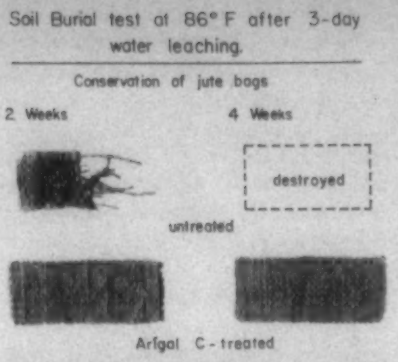
The new process, designed to reduce manufacturing costs by as much as 30%, is a byproduct of atomic fuel research. It was developed and patented by W. R. Grace & Co. Between 1954 and 1960, W. R. Grace did considerable work in evaluation of these materials for textile and other uses. In 1960, Moretex obtained an exclusive license for manufacture and sale of these materials to the textile trade and has since been working continuously on both manufacturing and full evaluation.

(Request Item No. K-10)

Rot-Resistant Finish

Arigal C rot-proof finish designed to eliminate deterioration in fabrics exposed to contact with the earth under moisture conditions and other extremes of the elements such as humidity, rain, wind and sun has been introduced by the chemical specialties division of Ciba Co., Fair Lawn, N. J.

A control group of fibers and an Arigal treated group were placed in a wooden frame and submerged in a European river bed for a 24-month test period. When the rack was removed, those fibers treated with the rot-proof finish were found to be intact while the untreated fibers were completely disintegrated.


Soil Burial test at 86° F after 3-day water leaching.
Conservation of jute bags
2 Weeks
4 Weeks
destroyed
untreated
Arigal C - treated

Ciba technicians exposed yarn to microbial attack in the soil burial test above. The degree of protection is determined by the degree of tensile loss.

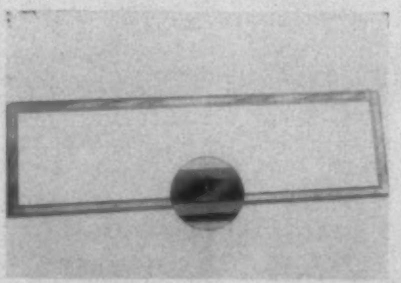
A non-leaching weatherproofing finish developed for use in continuous processing application, Arigal C is linked to the fabric by rapid chemical fixation. Simplicity of application and elimination of an after-wash make it economical for use on either yarn or piece goods, according to the company.

Arigal C does not affect the tensile strength of the fabric. The treated fabric retains its original hand with no resulting stiffening or bulkiness. Arigal C has no unpleasant odor and will not affect normally fast colors or cause shrinkage of the treated fabric.

Recommended for use on cotton, viscose rayon and other natural cellulosic fibers such as jute, rami and Manila hemp, Arigal C may be used to provide rot protection to products in the apparel, footwear and homefurnishings fields.

(Request Item No. K-11)

Laboratory Oven Frames



Oven frames made of corrosion resistant material and designed for high temperature usage have been developed by Robert A. Main & Sons Inc., Wyckoff, N. J. These new style frames come in sizes 12x12" in increments of 6", up to 30x30", and are offered for immediate delivery.

Frames consist of corrosion resistant metallic bars with needle points mounted on $3/8''$ centers, projecting straight up so sample materials can be stretched

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across the frame for testing and analytical purposes in laboratory type ovens.

(Request Item No. K-12)

Long Life Harness Strap

The Joel S. Perkins & Son Co., Gloucester, N. J., has released a new type of harness strapping. Called Tufpink, it is said to outlast any strapping now in use. All fly, dirt and oil deposits can be wiped off clean after months of operation and the strapping cannot be damaged by oil and metal fasteners and have not torn out in installations over two years old.

Minimum elongation, maximum stability and the fact that it will not fray, are also features of Tufpink, according to the company.

(Request Item No. K-13)

Two-Level Textile Truck To Speed Material Handling

The "flip-top" carries three receptacles.

A new two-level flip-top mill truck designed to speed in-plant handling of filling, doffing, knit goods, garments, spools and other textile materials has been designed by the Fisher Division, National Vulcanized Fibre Co., Wilmington, Del.

The truck, with a flat-bed, four-wheel chassis, carries three vulcanized receptacles and provides access to all simultaneously.

Two of the receptacles are rectangular. One rests on the bed of the truck and the second is held in place on a metal frame positioned above the first. The frame is attached to movable arms enabling the receptacle to be swung out over the bottom unit. This permits simultaneous loading or unloading of both units.

Movable arms swing the top unit out of the way of the bottom unit for easier loading and unloading.

A square hamper, approximately the size of two rectangular units, occupies the end of the truck permitting loading or unloading of the hamper while the other two units are being used.

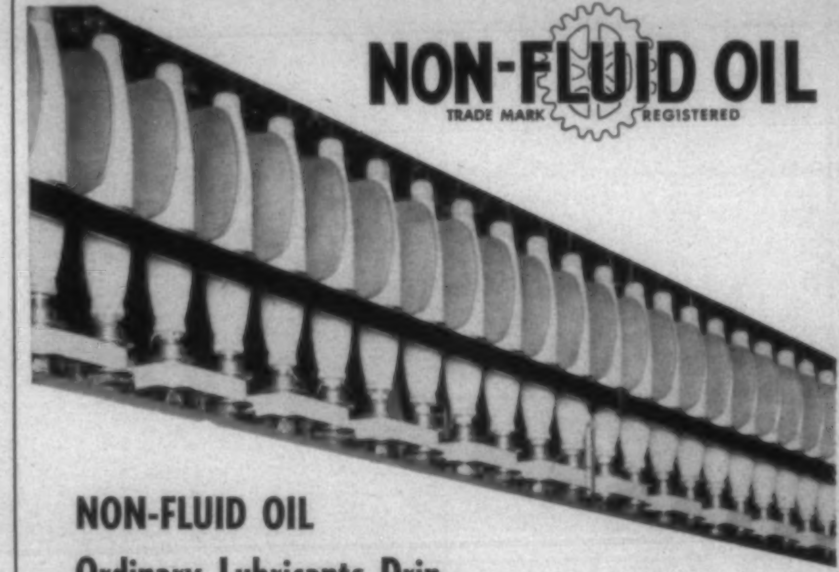
This feature is designed for aisle work where the receptacles are accessible to employees working on either side of the truck. The truck chassis is made of all-welded angle iron and is supported on 4" plain-bearing steel casters for easy rolling. Dimensions vary with specific requirements.

(Request Item No. K-14)

Fabric Softeners

Two new Emersoft textile softeners, 7705 and 7710 Softener Base, have been developed by Emery Industries, Cincinnati, Ohio.

Emersoft 7705 is a non-ionic paste



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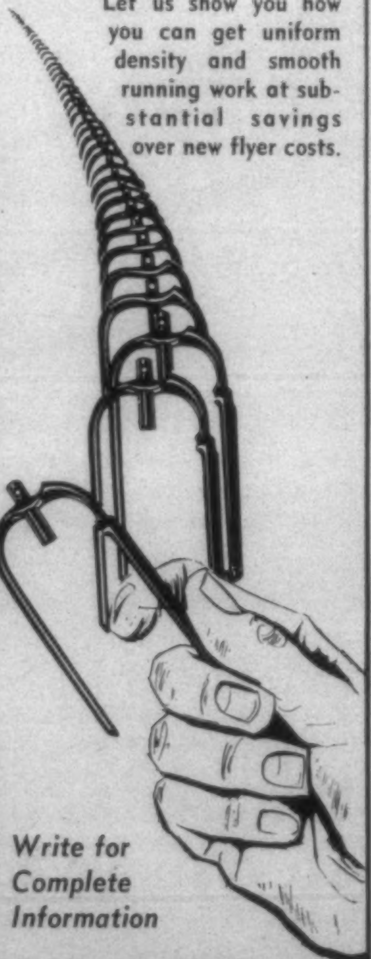
Let us show you how you can get uniform density and smooth running work at substantial savings over new flyer costs.



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softener developed from Emersoft 7700 Special. It features ready dispersibility and lower unit cost. Emersoft 7710 Softener Base is a 100% active material that forms a cationic-nonionic paste softener by mixing with dilute acetic acid.

Both of the new softeners are designed to offer outstanding resistance to yellowing upon aging, and provide softness and good sewing lubricity. Full information on Emersoft 7705 and 7710 is contained in Technical Bulletin No. 407B, titled "Emersoft Textile Softeners."

(Request Item No. K-15)

Webbing Yarn Package And Polypropylene Yarn

Dawbarn Brothers Inc. of Waynesboro, Va., has introduced a new product, DLP-57, designed for outdoor furniture webbing weavers and chair manufacturers, and a new Beamette package. The Beamette contains eight ends versus, for instance, DLP-50's single end. The package is designed to save a considerable amount of labor presently expended with conventional packages. It will also save on plant space presently used for storage. Simplified creels now can handle the package; and with slight modifications, existing creels can be used. Yardage control is virtually absolute and because the yarn is shipped on a disposable tube, no rewarehousing of empty spools is necessary. Space for empties can be utilized for other uses, and return shipments are eliminated.

Features for the new yarn include:

Tensile strength: 15 to 20% over Dawbarn's own DLP-51. This high strength gives longer U.V. life.

U.V.: The new yarn has improved stabilization against ultra violet degradation. Testing indicates that webs made from the yarn will last at least two to three years in normal usage, according to the company.

Size, color and yield uniformity of DLP-57 cannot be surpassed, reports Dawbarn.

(Request Item No. K-16)

Suction Drum Skein Dryer

This interior view of the Saco-Lowell/Fleissner suction drum dryer shows how each skein is held to the bottom of the drum by using the air suction principle. Production can be increased by up to 50%, compared to conventional types of dryers, depending upon the skein weight and type of fiber. Bone dry, the skeins in process weigh 44 ozs., as opposed to a wet weight of approximately four pounds.

Saco-Lowell Shops has introduced a suction drum dryer for skeins. The Hank Yarn dryer is basically the same in design as other Saco-Lowell/Fleissner dryers with modifications in the feed and delivery arrangement.

Skeins are hand-placed on an intake apron before the dryer and are delivered from the last drum to a delivery apron. They can be removed from the delivery apron and bundled or they can be delivered directly to the box.

Wool skeins, processed on 36" reels, and with a moisture content of 70% before drying, weigh from 4 to 16 ounces after drying with a moisture content of only 16%. After drying, all yarn

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is Scott-meter tested for condition and has proven satisfactory in all respects.

On a four-drum unit with a 32" working width, production averages 1,000 pounds per hour. Skeins of wool and cow hair blends, having approximately the same specifications as straight wool, have been processed at 800 pounds per hour. Nylon skeins with a wet weight up to 3¼ lbs. have been run on the S-L/F dryer with satisfactory results.

The Saco-Lowell/Fleissner dryer has made it impossible to continuously wet process and dry skeins when the Suction Drum processing bow is operated in conjunction with the dryer.

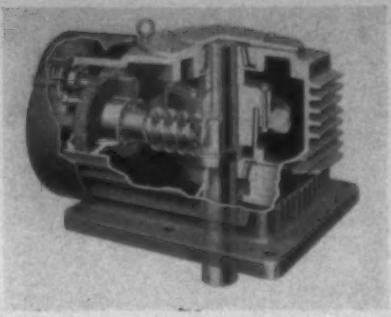
(Request Item No. K-17)

High-Ratio Gear Reduction

The efficiency of high ratio worm gear reductions has been increased through the use of a helical and worm gear double reduction combination in the new HUF and HDF speed reducers recently introduced by the Cleveland Worm & Gear Division of Eaton Mfg. Co., Cleveland, Ohio.

The units are available with output shafts extending either upward or downward. The helical and worm gearing run in a large capacity common oil bath for effective cooling and lubrication. HDF type units, which have the downward output shaft extension, use a dry well construction to avoid the hazard of oil leakage.

The helical gears are hobbed, crown shaved and flame hardened and have been designed to withstand the same momentary overload of 300% of rated load as the worm gearing. The centrifugally cast bronze worm gears employed in the HDF type units are either solid or have rims welded to cast iron hubs. In HUF types, worm gears are either centrifugally cast onto a cast iron hub that has a double row of lugs for mechanically keying the bronze ring to the hub, or have flanged type rims bolted to the hub. Flame hardened alloy steel worms are cut integrally with their shafts. Aluminum or plastic cooling fans are mounted on the high speed pinion to insure adequate cooling of the heavily finned cast iron housings. Shafts and bearings throughout are sized and located to withstand high overhung loads.


Type HDF (downward output shaft extension).

Ratios range from 35:1 to 250:1. Ratings range from approximately fractional to 60 h.p.; output torque capacities run as high as 145,000 inch-pounds

(Request Item No. K-18)

3-Way Conveyor Switch

Flexible roller curve units for switching conveyorized items onto spur lines left, right or straight ahead have been introduced by the Rapids-Standard Co., Grand Rapids, Mich.

Models for three-way Y or spur switching are available. Units connect to gravity or power conveyors and are operated by hand, or by motor from remote locations.

The Rapistan three-way switch model will divert materials from a common

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Greensboro Loom Reed Co., Inc.
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carrier 45 degrees left, right or straight through. Also, material from any three lines can be channeled onto a common line. The Y switch diverts materials to right and left spur lines only. Spur switch model has straight-through and either right or left-hand position turn.

Curve units are for 12", 18" or 24" conveyors. Units are designed with rollers in two lanes to assure material alignment around curves. Rollers may also be pitched to aid in gravity flow of materials. If needed, guard rails can be made for most any requirements.

(Request Item No. K-19)

Fast To Light Direct Dye

Lumicrease Dark Brown 3LB Pat., the newest addition to the Sandoz group of extremely lightfast direct dyes, has been introduced by Sandoz Inc., New York City.

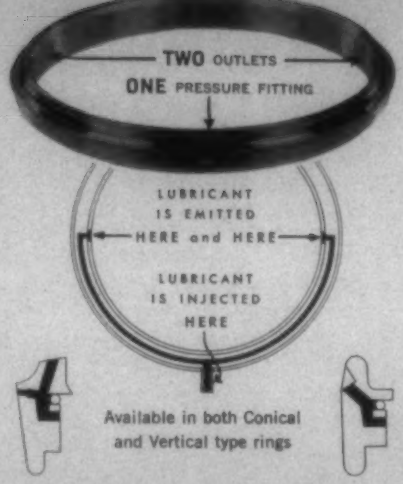
It is an homogeneous dyestuff, suitable as a main element for brown shades, and as a shading color in the dyeing of cotton, rayons, linen, jute, sisal and hemp. Because its fastness to light is unaffected by resin finishing, it is being recommended for decorative fabrics and dress goods. Its working properties include low salt sensitivity, freedom from sensitivity to hard water and level dyeing. Fastness to washing and water spotting are rated Excellent when aftertreatd with Cuprofix No. 52 or Sandofix WE, Sandoz claims.

(Request Item No. K-20)

A New Ring Design

Dualube, a new ring design engineered to provide added assurance of adequate lubrication when used with Alemite or Lincoln centralized pressure systems, has been developed by Whitinsville Spinning Ring Co., Whitinsville, Mass.

It is described as the first ring to provide multiple distribution of grease, as well as oil, around the circumference of the ring. This is accomplished by leading the lubricant from the single pressure intake fitting through ducts wholly inside the ring which terminate in outlets around the circumference. Adequate distribution of lubricants of all viscosities used in pressure systems is thus assured.



Available in both Conical and Vertical type rings

Dualube is already in use on wool spinning (available on the Davis & Furber Model H frame, for example) and tire yarns, and is equally suited to worsted twisting, carpet yarns, asbestos yarns and similar work, running either metal or nylon travelers.

A descriptive brochure is available.

(Request Item No. K-21)

Bright Acid Dyes For Wool

Two new Kiton bright acid dyes, Fast Blue SRL and Fast Blue FGL, have been introduced by Ciba Co., Fair Lawn, N. J.

Both dyes are designed to have excellent build-up properties and exhibit good light fastness and wet fastness on both wool yarn and piece goods. They also feature good solubility and level dyeing properties.

Blue SRL is recommended for dyeing dress goods, furnishings, upholstery fabrics and wool and fur hats.

Blue FGL is recommended for dyeing Ban-Lon to minimize barre effects and to leave polyester fibers reserved. It may also be used in Neolan dyebaths for brightening purposes. It can be used for dyeing carpet yarns and fabrics for apparel and furnishings.

(Request Item No. K-22)

Polyurethane Coatings

A new family of pure polyurethane coatings which offers unique versatility and application ease is being offered by Hughson Chemical Co., Erie, Pa.

Designated as Chemglaze Coatings, the new products hold special interest as chemical-resistant maintenance coatings on surfaces exposed to corrosive materials or hard use.

The coatings are true polyurethane coatings available as ready-to-use, one-part systems. High resistance to chemicals, solvents and oils, as well as resistance to dirt, impact and ozone, makes them virtually immune to corrosion, deterioration and wear. They retain surface gloss longer under the most abusive conditions.

They are available in hard versions (for use over concrete, wood, metal, rigid plastics, glass) and flexible versions (for soft plastics, fabrics, leather, paper, rubber, similar materials). Another unique advantage—a wide variety of colors and finishes to assure durable and decorative surfaces.

Typical applications include: chemical process equipment, tanks, filters, machinery, conveyor belts, floors and walls, wire and electrical components, shuttles and bobbins.

(Request Item No. K-23)

Storage Unit Kits

Instant storage units of three and four-shelf design have been introduced by Acme Steel Co., Chicago, in ready-to-assemble kits. A total of 120 packaged, pre-cut A.I.M. brand slotted angle storage units are offered. Each kit contains precisely-cut lengths of accessories, bolts, knurled nuts and instructions to facilitate assembly. The kit storage units are available in 6', 7', 8' and 9' heights, in 2', 3' and 4' depths, and in lengths from 36-60", in 6" increments.

Extra shelf kits are also available for use in spanning two or more complete kit units of either three or four-shelf

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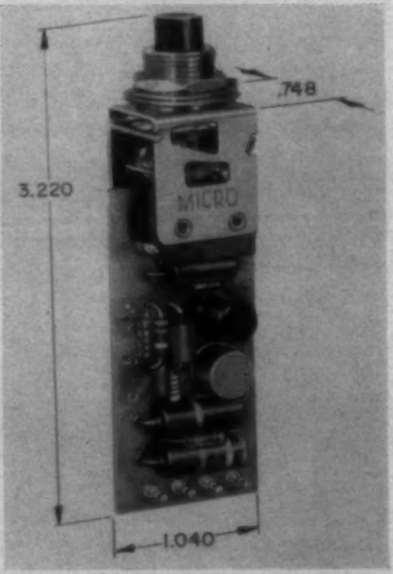
Acme storage units are available in a variety of heights, depths, lengths.

types or in adding shelves to basic unit, as needed.

A.I.M. brand slotted angle is a framing material made with a pattern of slots and holes to allow quick alignment and assembly for bolting. It is also offered in standard 10′, 12′ and 15′ lengths for shear-to-size creative framing of customer-designed storage facilities to fit specific storage needs.

(Request Item No. K-24)

Millisecond Pulse Switch



A new "one-shot" pushbutton switch that produces a single millisecond-length pulse with each operation has been introduced by Minneapolis-Honeywell's Micro Switch division, Freeport, Ill.

Because the switch incorporates its own electronic circuit, the firm points out, it eliminates the need of engineering special pulse input circuits for high-speed electronic switching devices.

The switch is said to be especially applicable for pulsing relays and solenoids, induction heaters, digital computers and other sequencing.

(Request Item No. K-25)

For the Mill Bookshelf

Synthetic Organics, Acids And Anhydrides

The Union Carbide Chemicals Co., New York City, has issued two new bulletins—one concerning the physical properties of synthetic organic chemicals and the other dealing with acids and anhydrides.

The former has 25 pages describing physical properties such as: formula, molecular weight, specific gravity, boiling point, vapor pressure, freezing point, solubility, weight per gallon, flash point, and I.C.C. labels required, for its synthetic organic chemicals.

The bulletin on acids and anhydrides features 18 charts and graphs on the company's acids alone. It also describes all of the company's anhydrides, giving physical characteristics of each and also test methods. In addition there is a selected references section.

(Request Item No. K-26)

Infrared Furnaces

A new descriptive bulletin, BRG113, describing Radcor electric infrared continuous furnaces for industrial use, has been released by Radcor Inc., Fostoria, Ohio. The bulletin contains illustrations, applications and features, highlighting the light weight and mobility of the furnaces. Also, construction, ventilation, controls and specifications are described.

(Request Item No. K-27)

Circuit Breakers

Completely new-design 4.16 and 13.8-kilovolt circuit breakers and switchgear are described in a new bulletin, No. 2800-2B, published by I-T-E Circuit Breaker Co., Philadelphia, Pa.

The bulletin provides drawings, sketches, photographs, specifications and charts, detailing such features as the stored-energy closing system, face-wound blowout coils and closed-door drawout.

(Request Item No. K-28)

Ion Exchange Water Softener

Thirteen case histories of installations using Amberlite 200 cation exchange resin are reported in a technical bulletin published by Rohm & Haas Co., Philadelphia, Pa. Examples include softening, deionization and special applications in aggressive and oxidative streams and demonstrate the exceptional chemical and physical stability of Amberlite 200 under a variety of extreme conditions.

Amberlite 200, like conventional resins, is a sulfonated styrene-divinylbenzene copolymer. This new resin is particularly recommended for use in treating water supplies or industrial wastes that cause standard resins to decrosslink or fracture.

(Request Item No. K-29)

Brushing Tool Standards

"Standard Nomenclature for Construction of Industrial Brushing Tools" is the title of a 14-page book released by W. M. Jenkins' Sons Inc. of Cedar Grove, N. J.

The book illustrates brush construction for many industrial applications. Large cross-section drawings illustrate the characteristics of power-driven cylinder brushes, twisted-in-wire brushes, strip brushes and others. Methods of setting the bristles are also shown and every component part of each type of brush is shown and identified.

(Request Item No. K-30)

Textile Softeners

A 16-page technical bulletin titled "Emersoft Textile Softeners" is available from the organic chemicals division of Emery Industries, Cincinnati, Ohio.

It describes the company's two new softeners, Emersoft 7705 and Emersoft 7710 Softener Base, as well as the original member of the line, Emersoft 7700 Special. The booklet contains performance evaluations on the three products, as well as suggestions on application and formulations.

(Request Item No. K-31)

Dyeing And Finishing Dacron 35

A new bulletin describing the dyeing and finishing of fabrics containing Dacron 35 has been issued by the technical information department of The Du Pont Co., Wilmington, Del.

Dacron 35 is described as possessing especially good resistance to pilling and is well suited for blending with cotton or rayon. It can be utilized in such fabric types as oxford weave shirtings, twills and flannelettes.

The bulletin reports that Dacron 35 and Dacron 54 are dyeable with disperse, disperse-developed and azoic dyes. It may, however, have moderately lower strength than equivalent fabrics containing Dacron 54.

The bulletin also features charts and graphs comparing the properties of Dacron 35 to Dacron 54 as to turns per inch, tear strength and grab strength. It compares the effect of heat-setting temperatures on both of the fibers.

(Request Item No. K-32)

Electrical Tachometers

The Herman H. Sticht Co., New York City, has published Bulletin No. 720, describing its tachometer generators (transmitter), the tachometer indicators (receiver) and various types of drives to connect the generators to industrial machinery, motors, engines or other rotating equipment.

The bulletin also shows enclosures for wall mounting for the tachometer indicators, including waterproof models which are designed to protect them against water, spray, dust, vapor and ambient conditions.

The tachometers are available in a variety of speed ranges in several types and sizes. They are supplied with built-in potentiometers for fine adjustment after installation or to compensate later for a change in basic operating conditions.

The units can be supplied with dial readings in r.p.m., feet per minute, yards per minute, etc. All tachometers are individually calibrated to assure both high accuracy and good readability.

(Request Item No. K-33)

Traveling Cleaner

A new bulletin on the company's FilterBlo traveling cleaner, which is designed to deliver clean air, reduce ends-down in cotton spinning and lessen yarn imperfections, has been published by Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

The unit removes lint from the room and carries it to a disposal area. It contains a large revolving filter which is cleaned continuously by a vacuum nozzle connected to a TravelVac floor cleaner.

Benefits claimed by the company for the FilterBlo in the spinning room include: less lint accumulation in the drafting system; less waste on revolving top clearers; less lint on and within the traveling blowers themselves; less required maintenance; maximum blower efficiency maintained; and room atmosphere noticeably cleaner.

(Request Item No. K-34)

Acme Strapping Machines

High unitizing productivity — up to four boxes per minute—and low operating cost in packaging textiles with new push-button F11 compression strapping machines are described in Folder No. AD-406 from Acme Steel Co., Chicago.

The F11 is available in two models, a fully automatic unit (F11C) for high volume unitizing, or a semi-automatic model (F11A) for lower volume packaging. The electric push-button control console for each unit is portable for most convenient operating location.

Incorporating a compact and uncomplicated strapping mechanism, both machines can feed three straps simultaneously around packages in less than 20 seconds. Straps then are uniformly tensioned, sealed and cut.

Design simplicity—with no complex electronic circuits—facilitates servicing, and, where necessary, the entire mechanism can be replaced in five minutes with a stand-by unit.

(Request Item No. K-35)

Boiler Feedwater Treatment

A new 24-page booklet, Bulletin 30, entitled, "An Introduction to Boiler Feedwater Treatment," has been published by Nalco Chemical Co., Chicago, Ill. The publication answers various questions concerning the purity of boiler feedwater, operating pressures of boilers and their influence on water composition requirements, definitions of external and internal feedwater treatment, etc.

(Request Item No. K-36)

Corrosion Resistors

A report on how three different polyester resins—bisphenol A, isophthalic and general-purpose—and a room temperature and heat-cured epoxy withstood immersion for up to one year in various corrosive aqueous solutions at elevated temperatures is available from Atlas Chemical Industries, Wilmington, Del.

The 16-page bulletin includes curves showing strength retention of the various resins after immersion in a number of corrosive solutions for periods up to one year. In addition, tables are provided to indicate other specific effects of the corrosive media on the resins.

(Request Item No. K-37)

Electric Infrared Ovens

A 16-page catalog covering the Radcor line of electric infrared ovens for industrial applications is available from Radcor Inc. The catalog covers the Radcor temperature rating method of automatically providing the right oven answer to electric infrared heating problems once total time and maximum temperature have been determined. It lists 540 vertical and 144 horizontal standard models, and the price for each including controls.

(Request Item No. K-38)

Water-Soluble Co-Polymers

A comprehensive 40-page data bulletin has been issued by the General Aniline & Film Corp., New York City, on Gantrez AN, the first in a series of new water-soluble copolymers.

Gantrez AN resin, which is available in several molecular weights, is a water-soluble polyelectrolyte. Chemically it is the interpolymer of methyl vinyl ether and maleic anhydride (PVM/MA).

Some of the outstanding characteristics of this linear polymeric anhydride are its solubility in water over the entire pH range; wide compatibility with other substances, such as water-soluble gums, resins, plasticizers, and most metallic salts; effectiveness as a thickener in either aqueous or organic-solvent systems; stability in both acid and alkaline solutions; dispersing, coupling, stabilizing and other protective-colloid functions; formation of highly polar films with specific affinity for a variety of surfaces; and insolubilization by polyfunctional compounds.

The publication describes the physical, chemical and physiological properties of the resin in its three currently available molecular weights. Applications are cited in 19 industrial fields, including textiles.

(Request Item No. K-39)

Loom Replacement Needs

H. F. Livermore Corp. of Boston, Mass., and Greenville, S. C., has announced the publication of the first of two new catalogs of H.F.L. improved loom parts.

The new catalog is designed so that it comprises four main divisions containing information on loom parts for four different groups of loom types, plus a "Supplies Section," applicable to all loom models. These divisions are: Division I: E, K, P, and Modified D; Division II: X, X2; Division III: L, O, XL; Division IV: XD, XK, XP.

Each division is divided into tabbed sections which contain information on Livermore parts for major loom motions or assemblies.

In addition, they contain mechanical drawings of the motions or assemblies described, together with exploded views of individual loom parts. Parts are given an identifying item number on each drawing. Information includes data on the material and construction of the part, special features, part number, and the manufacturer's number of the original equipment part with which it is interchangeable.

(Request Item No. K-40)

Textile Costing

A typical cost system for the production and control of greige goods, written by Professor Thomas A. Campbell Jr., head of the Clemson College textile management department, is being offered by the Clemson College Book Store.

Newly revised and more complete, the book consists of a textile costing text and a work book. It outlines a typical cost system for greige goods mills and is designed to be helpful to mill management as well as to textile students. Requests for purchasing the two-book set should be addressed direct to the Clemson College Book Store.

Cotton Council Study

Detailed information in terms of square yards and pounds of cotton materials consumed in some 400 end-use markets has been published by the National Cotton Council, Memphis, Tenn.

The study is a special supplement to the 1961 edition of "Cotton Counts Its Customers," and also contains estimates of net domestic cotton consumption in selected end-uses.

Data is presented in two parts. Section I contains square yard and pound measurements of the comsumption of cotton and competing materials measured at the greige fabric and yarn level in terms of cotton equivalents. End use classifications are comparable to those in the regular edition of "Cotton Counts Its Customers."

Section II contains estimates of net domestic cotton consumption in selected end-uses. Net comparison estimates were determined by adjusting U. S. production of these items by imports and exports of comparable items. Data in Section II is in terms of 500-pound bales of raw cotton.

Copies are available from the National Cotton Council, Market Research Section, P. O. Box 9905, Memphis 12, Tenn.

Long-Term Equipment Leasing

A new brochure outlining the details of its new lease plan for extra-long terms is available from Nationwide Leasing Co., Chicago. The brochure contains charts showing leasing costs from 3 to 12 years. Also included is an explanation of which companies qualify for 3 to 7-year leases and which qualify for 8 to 12-year leases. The new plan is a special one for companies with a tangible net worth of $500,000 or more. It permits them to plan their equipment acquisition program over a period of up to 12 years, starting with a minimum of $25,000 in equipment. Free copies can be obtained by writing on company letterhead to Nationwide at 11 South LaSalle St., Chicago 3, Ill.

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Interchemical Southern Unit Moves To Charlotte

Interchemical Corp.'s color and chemicals division has moved into its new Southern district headquarters at 1300 Arrowood Blvd. in Charlotte, N. C. The offices were formerly at Rock Hill, S. C. The office-laboratory-warehouse also houses facilities for two other divisions of the company—the industrial finishing division and the printing ink division. The company has its main offices and plant at Hawthorne, N. J., and another branch at Pawtucket, R. I.

MagneDrafts Moving Well For Saco-Lowell Shops

Sales or installation of over 1,000 of its MagneDraft spinning frames and changeovers to American textile plants in the first eight months of the current year has been reported by Saco-Lowell Shops, Easley, S. C. In addition, the company's international division reports substantial orders have been received from abroad.

Mills that have installed or ordered MagneDraft units since January 1, 1961, include Craftspun Yarns Inc., Kings Mountain, N. C.; Cone Mills Corp., Greensboro, N. C.; Cannon Mills Co., Kannapolis, N. C.; and Greenwood (S. C.) Mills. Also A. M. Smyre Mfg. Co., Gastonia, N. C.; Dan River Mills, Danville, Va.; Russell Mfg. Co., Alexander City, Ala.; Pilot Mills Co., Raleigh, N. C.; and Dyersburg (Tenn.) Cotton Products Inc.

Morningstar Opens New York City Office

Robert P. Morningstar Inc., Milford, Pa., has announced the opening of a New York office at 502 Park Ave., New York 22, N. Y. The company has its laboratory at Milford and specializes in services in chemical research and consultant work for the textile and adhesive industries.

Southern Machinery Moves Operation To Greer, S. C.

Southern Machinery Co., Greenville, S. C., has completed its move to new quarters on Brushy Creek Rd. at Greer, S. C.

Manufacturers of the Hunt Let-Off, the Bild-O-Matic and the Smoothee, Southern made the move to consolidate administration, sales, research and development and manufacturing under one roof. As a result, the company reports, it can now give full service on its three main units and will be capable of increased development.

AVISUN CORP. WILL PRODUCE 100 million pounds of polypropylene polymer a year at its new plant in New Castle, Del., dedicated formally at exercises held September 21. Polypropylene is manufactured from propylene gas, a co-product of oil refinery operation. The gas is polymerized and the resultant powder washed and purified to form polypropylene pellets. Extrusion or molding operations tailor it for use in a wide range of end products—from fibers to appliances. As a monofilament fiber it can be used in automobile upholstery, furniture webbing, marine rope and industrial fabrics. Important breakthroughs have also been made toward perfecting polypropylene into a staple fiber. Founded in 1959, AviSun is an equally-owned affiliate of American Viscose Corp. and Sun Oil Co.

Du Pont Introduces New, Improved Nylon For Tires

Initial shipments of a significantly improved nylon tire yarn and a large increase in productive capacity have been announced by the Du Pont Co., Wilmington, Del. In evaluation tests on the new yarn, Du Pont reports improved adhesion and up to 25% better fatigue resistance than other yarns.

Designated as Type 714 nylon, the new yarn is being produced by an entirely new manufacturing process which reportedly provides greater flexibility and a much wider latitude for development of even better nylon tire yarns in the future. With this increase, the country's total industrial nylon yarn capacity will be sufficient to reinforce all pneumatic tires.

Some 50% of all passenger tire replacement sales during 1960 were nylon cord tires. This figure rose to 56% during the first half of 1961. In replacement truck tires, more than 60% of those shipped during the first half of 1961 were nylon, while about 35% of original equipment truck tires were nylon.

Roberts' Plant Destroyed In Million Dollar Blaze

The No. 1 Roberts Co. plant in Sanford, N. C., was completely destroyed in a $1 million fire October 9. The 20,000 square-foot building which had been in use for approximately ten years, housed the precision and die casting operations for the company. However, the property loss was fully covered and the company also carried business interruption insurance.

Some 200 people were employed at the No. 1 plant and the majority will be absorbed into Roberts' remaining five plants in Sanford. Others were scheduled for a two-to-three week layoff.

To replace production lost through the fire, Roberts has sped up plans for the new 105,000 square-foot building

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1926 "IF IT'S PAPER" 1961

which has been in the planning stage for the past few months, and also plans to expand the recently acquired facilities at Greenwood, S. C.

Sub-contract work has been let for some of the die-casting usually done at the No. 1 plant. Also, a call has been made for all types of machine tools to be placed in the new plant.

Reeves Brothers Licenses Cranston Print For Curon

Reeves Brothers Inc., New York City, has appointed Cranston Print Works Co., New York City, a licensed laminator for its Curonized process of heat laminating polyurethane foam to fabric. Cranston is presently equipped for lamination in its plant at Cranston, R. I. Expansion plans are now in progress for future installation of laminating equipment in Cranston's other plants at Webster, Mass., and Fletcher, N. C.

Draper Workers Vote 2-To-1 Against Unions

Production and maintenance employees at Draper Corp., Hopedale, Mass., have voted against representation by the United Steel Workers of America and the International Molders & Foundry Workers Union of North America. Under the auspices of the National Labor Relations Board, the employees voted 956 against joining the unions. Some 472 employees were in favor of joining the Steel Workers union and 35 wanted to join the Molders & Foundry union.

American Viscose Sales And Earnings Show Rise

American Viscose Corp., Philadelphia, Pa., reports an estimated income of $1.55 million for the third quarter this year as compared with $529,000 during the same period last year. Sales for the period are expected to be $54.7 million against $48.5 million in 1960 for the third quarter.

Nine months estimated sales for 1961 are lower at $155.9 million as compared with $156.6 million during the first nine months of 1960. Earnings for the period are expected to be approximately $3.3 million against $4.3 million last year.

W. H. Brown, vice-president and treasurer, attributed the third quarter estimated rise to somewhat improved prices in greige goods, yarns and fibers, although, he said, they haven't reached a sound economic level. Brown noted that Avril is proving out very well and will be used in Spring fabrics. Also virtually all 1962 automobile models will be equipped with tires made from Tyrex yarn. AviSun Corp. has made excellent progress; Avicel, a new microcrystalline cellulose, is expected to do well; and cellophane shipments are slightly ahead of this time last year.

Hercules Completes Its Polypropylene Fiber Plant

Hercules Powder Co., Wilmington, Del., first and largest commercial producer of polypropylene in the U. S., has announced completion of its multi-million-pound polypropylene fiber plant in Covington, Va. The plant, with an initial annual capacity of 12 million pounds, is readily expandable in order to meet the market demands of the future.

Interest in polypropylene fibers has grown steadily. So light that it floats, the fiber provides substantially greater coverage per pound than any other fiber, Hercules reports. It is strong, tough and highly resistant to mechanical abuse and chemical attack.

The fiber is being produced at the former Industrial Rayon Corp. nylon facility, which has been completely redesigned for this purpose. A complete fiber research center has been established at Covington, occupying a large portion of the former I.R.C. rayon plant. Facilities have been built to perform all steps in fiber development from chemical research through fabric construction and end-use testing.

The fiber is available in three forms: continuous multi-filament yarn, staple fiber, and tow. It can be used for knitted, woven, nonwoven aud tufted fabrics. Hercules sales headquarters are at 380 Madison Ave., New York City, with a recently opened branch office at 1214 Wachovia Bank Bldg., Charlotte, N. C.

Branch Office Opened In Greenville By Sjostrom

Sjostrom Automations Inc., Boca Raton, Fla., manufacturer of cutting, folding and stacking machines, has opened a branch office at 209 E. Stone Ave. in Greenville, S. C.

Parts for various units will be stocked and service men will be available from the office. The manufacture of the Knotwood Steel Feed Aprons now carried on at Boca Raton will be transferred to a new building in Greenville, also.

Charles L. Tidwell Jr., formerly associated with J. P. Stevens & Co., is in charge of the new office.

Owens-Corning Opens New Technical Center

Heads of research for nearly 100 corporations attended the dedication of Owens-Corning Fiberglas Corp.'s new multi-million dollar technical center at Granville, Ohio. The center was dedicated in honor of Games Slayter, father of the glass fiber industry in America. The dedicatory address was delivered by Dr. Frederick Lawson Hovde, president of Purdue University, from which Slayter received his chemical engineering degree in 1921. A commemorative plaque honoring Slayter was installed near the technical center entrance.

It was largely through Slayter's efforts that practical uses of glass fibers were developed, and processes created by which this material could be made commercially available. Slayter has to his credit more than 135 patents, most of which were received within the past 30 years as a result of glass fiber research. At present, he is vice-president, research, for Owens-Corning and directs the firm's pioneering laboratory.

Goodyear, Toyo Spinning Enter 10-Year Vitel Pact

Technical assistance for the manufacture of a polyester plastic resin for synthetic textile fibers, called Vitel, will be given by The Goodyear Tire & Rubber Co., Akron, Ohio, to Toyo Spinning Co. Ltd., of Osaka, Japan, under terms of an agreement announced jointly by the two firms.

A ten-year pact calls for Goodyear to furnish technical know-how for the design, construction and start-up of a ten million pound a year plant to be built at Iwakuni, Japan, about 25 miles from Hiroshima.

The negotiations between the two firms resulted in Goodyear's first alliance with any foreign company for the manufacture of Vitel polyester resin, however, it is still subject to validation by the Japanese Goverment.

Both companies expressed hope that this new relationship between their respective companies would lead to a further expansion of industrial opportunity and become a contributing factor to the improvement of the international business climate.

Toyo Spinning, better known as Toyobo in Japan, is that country's oldest and largest manufacturer of textile products with 26 plants in operation. The agreement marks Toyobo's first entry into Japan's rapidly growing polyester textile markets. The firm produces a wide variety of cotton, wool, rayon and other synthetics—from raw materials to finished goods.

Vitel was developed and patented by Goodyear and has been produced commercially for several years in the company's Point Pleasant, W. Va., chemical plant and is used in this country by Beaunit Mills to make a synthetic textile fiber called Vycron.

Adams/Zeller Corp. Begins Construction Of New Plant

Based on a sharp increase in sales of industrial drying machinery in the last quarter of 1960 and the first six months of 1961, The Adams/Zeller Corp., Glenside, Pa., has begun construction of a new plant at Ivyland, Bucks County, Pa., with completion set for late Fall.

The new plant, on a 6½-acre tract, will have 15,000 square feet of manufacturing space and 3,000 square feet more devoted to offices and engineering. A second plant, in Philadelphia, with 22,000 square feet of manufacturing area, is to be maintained.

Sales for the first six months of 1961 were up 40% as compared with 1960.

FMC Corp. Constructs New Multi-Million Dollar Plant

FMC Corp. (formerly Food Machinery & Chemical Corp.), New York City, will build a new multi-million-dollar plant to produce toluene diisocyanate, a major component of polyurethane plastics. Capacity figures have not been disclosed because of the possibility of FMC forming a partnership in connection with this new venture. FMC has developed its own patented process for the production of toluene diisocyanate.

The plant facility will be built on the site of the former Naval Ordnance plant in Charleston, W. Va. This property, which FMC purchased from the federal government last Spring, adjoins the company's chlorine-caustic plant which will provide a substantial portion of the raw materials needed for producing the new chemical.

Plans call for construction of the toluene diisocyanate facility to start early next Spring, with initial operation scheduled for late 1963. Also, FMC is currently constructing a new hydrogen peroxide plant on the same property.

Chemical Industry Sales To Reach New High In '62

Chemical industry sales will reach a record high of more than $30 billion next year (1962), according to Chris F. Bingham, vice president, chemical sales, chemical division of Pittsburgh Plate Glass Co., Pittsburgh, Pa.

Bingham reports that chemical industry sales for 1960 were $27.7 billion and that sales estimates for this year exceed $29 billion. He forecast that sales during 1962 would increase at the rate of 3 to 6% to move the industry past the $30 billion mark.

A.S.T.M. Changes Name To Testing And Materials

The American Society for Testing Materials has officially changed its name to the American Society for Testing *AND* Materials.

In announcing this change, A.S.T.M. President Miles N. Clair said, "The inclusion of the word 'and' in the society's name places added emphasis on the society's research work in seeking knowledge of the nature of materials. It is a further re-emphasis of one of the basic purposes for which A.S.T.M. was founded in 1898. Since then, the work of the society has been devoted to the fulfillment of its basic objectives, unchanged from the original charter which states: 'The corporation is formed for the promotion of knowledge of the materials of engineering, and the standardization of specifications and the methods of testing.'

"And, to give greater stimulus to the work of the society in the field of materials research, a Division of Materials Sciences was established two years ago."

The change in name was the result of study and discussion with members throughout the country extending over several years. It was also given careful consideration by the A.S.T.M. board of directors prior to its approval and adoption by the membership at the annual meeting this past June.

"Although a number of other suggestions for a new name were given serious consideration," Clair points out, "there was strong agreement among the membership that there should be a min-

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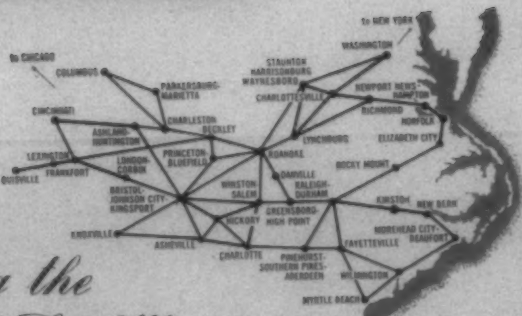

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imum disturbance of the name. In addition there was unanimous agreement that the initials 'A.S.T.M.' and the society's incorporating these initials should be unchanged."

A.S.T.M. has almost 11,000 members including individuals, companies, government agencies and educational institutions. There are in addition about 7,000 prominent engineers and scientists who serve as representatives of company members on the society's 87 technical committees.

S.P.P.A. Opens Chicago Tech. Information Center

The new technical information center of the Screen Process Printing Association, International, is now in full operation. The center, located at 465 Milwaukee Ave., Chicago, was formed to help apply the latest research and production advances to specific problems in the industry, and will make its research and problem-solving services available to S.P.P.A. members without charge.

The center is designed to answer individual technical problems which are forwarded to the center, and to pool and publish the latest research findings on problems of industrywide concern.

In its research phase, booklets will be available concerning specialized inks and how they should be used and acceptable and workable substitutes for all types of solvents used in the screen process printing method.

For its "how-to-do-it" program, the association has assembled a list of experts in every field of screen process operation, supplies and equipment. As individual questions come in, the center will forward them to an expert in the area in question.

American Enka Reports Sales Increase By 11%

American Enka Corp., Enka, N. C., has reported a substantial increase in earnings and sales for the first 36 weeks of this year. Net sales amounted to $73.5 million, compared with $66.2 million for the same period in 1960, an increase of 11%. Net income increased to $3,137,394, or $2.38 per share, compared with $482,596, or 36 cents per share, for the corresponding period in 1960.

"Despite a seasonal slump in July, Enka's earnings have continued slightly above the level reached in the second quarter and are well ahead of last year," according to Philip B. Stull, chairman of the board and president of the company. "Demand for our rayon yarns has been strong and there has been some recent firming in the prices of textile yarns and staple. Shipments of Enka nylon yarns have shown an upward trend throughout the year as additional production facilities have been completed and capacity increased. Our nylon expansion program continues on schedule and is expected to be completed in the Spring of 1962."

WHITE BEARINGS CO. of Charlotte was named the exhibitor with the best booth in the recent Southeastern Plant Engineering and Maintenance Show at Greensboro. The firm was awarded a plaque for its use of mobile displays to show its products, with plastic housing over cut-away products to show the inner workings of speed reducers and couplings.

Stein Hall, Organa Trust Form European Gum Co.

Stein, Hall & Co. of New York City, and Organa Trust of Milan, Italy, have announced an agreement to form a joint venture company in Europe which will hold a major interest in Pakistan Gum Industries Ltd., which manufactures natural gums in Pakistan. The new European company to be formed will perform research, development, technical and sales services for Pakistan Gum.

Pakistan Gum will process the raw material principally for export, and will provide Stein, Hall and Organa Trust with guar gum.

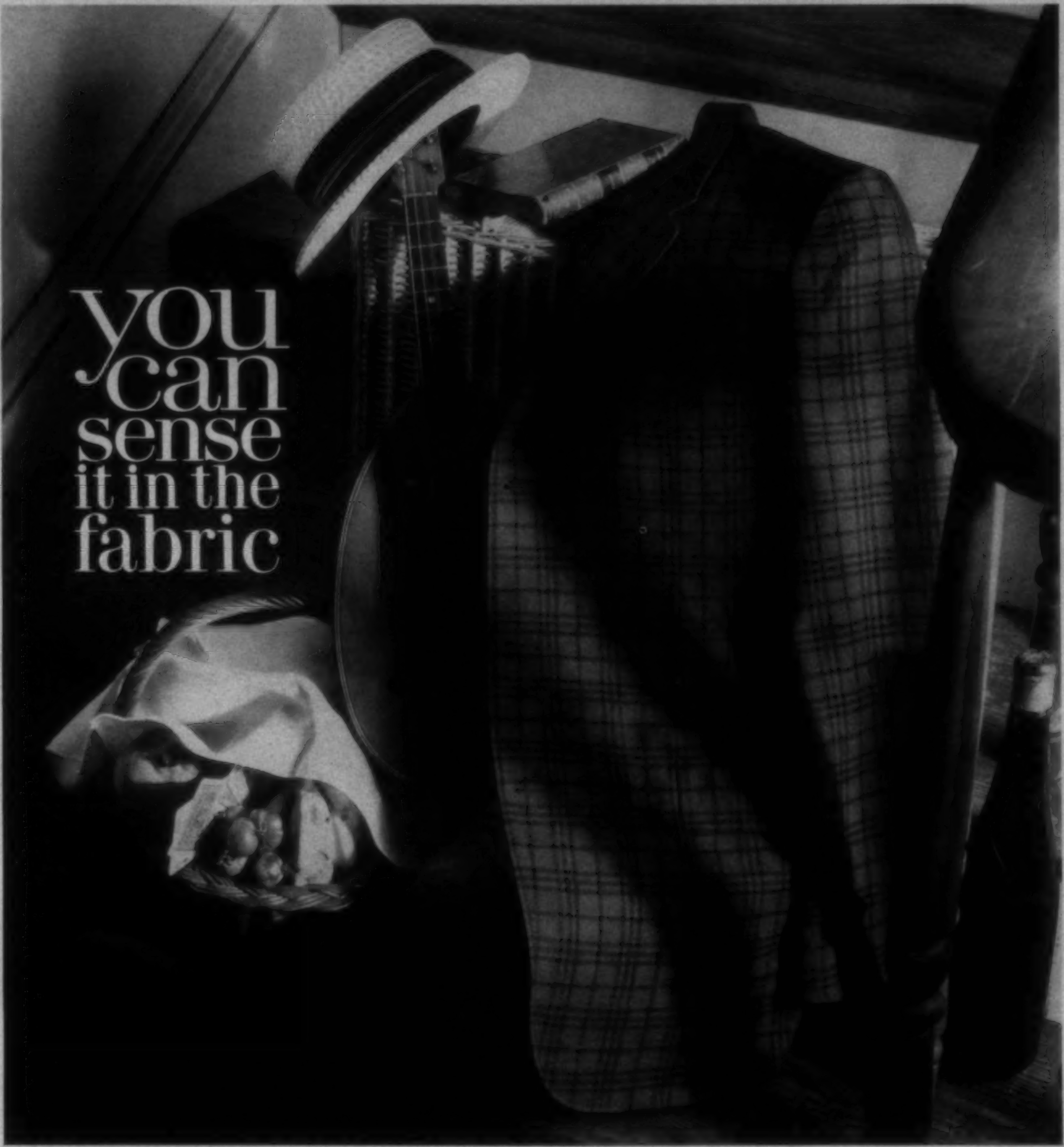
Carbide Obtains Rights Under Urethane Patent

Union Carbide Chemicals Co., New York City, has purchased from General Tire & Rubber Co., Akron, Ohio, rights under the Price patent (U. S. Patent 2,866,774) with the right to grant sub-licenses to its customers.

The Price patent relates to urethane products made from polyethers which are adducts of alkylene oxides with polyhydric alcohols having less than seven carbon atoms and three to six hydroxyl groups. NIAX triols supplied by Carbide for foam manufacture are of the type recommended by Dr. Charles C. Price in his patent.

The patent was granted in 1958 to Dr. Price and assigned to the University of Notre Dame, where he conducted his original work. Union Carbide has been advised by General Tire that Dr. Price will receive a portion of Carbide's payment, as will the University of Notre Dame, and that General Tire, which first obtained exclusive rights under the Price patent in 1958, will receive the balance of the payment as reimbursement for its support of the research and other expenses in connection with the patent and its enforcement. General Tire will continue to act as the agent of Notre Dame in licensing and patent enforcement.

AS APPEARING IN: New York Times, The New Yorker, Sports Illustrated, Life



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VOL. 87 NOVEMBER 1961 NO. 11

The Way To Pure Automation Is Step By Step

MODERNIZATION, NOT AUTOMATION OR LIQUIDATION, IS THE ECONOMIC OUT FOR THE TEXTILE INDUSTRY

By J. W. HUBBARD,*
Saco-Lowell Shops,
Easley, S. C.

IN general, machinery now being used to achieve automation may be divided into four general types: (1) automatic production machines; (2) automatic materials-handling systems; (3) automatic control systems; and (4) automatic information-handling machines. To achieve "pure automation," we must have these four ingredients available to be integrated in an economic and practical manner. The term "economic" is the keystone. If the economics of application eliminate one or more essential ingredients of "pure automation," the remaining elements are not to be cast aside, for they can well be the foundation of "practical automation."

Inaccurate And Unfair

An official of a state textile manufacturers' association** has coined the phrase "automate or liquidate." In so doing he also stated—quote: "American textile machinery builders have not yet awakened to the urgency of the mills' position. Our domestic machinery suppliers have not been as progressive as their foreign counterparts." End quote. Shortly afterwards, a similar condemnation of the American machine tool industry was made. In both instances I submit that these unfounded contentions are inaccurate and unfair.

If "urgency of the mills' position" involves lack of most modern automated equipment, it is because mills are not buying what is available—what has been recently developed. The fact remains that in preparatory and spinning machinery alone, in place in U. S. mills, less than 20% was bought within the last ten years.

Also, textile men, worldwide, should be reassured that when an American machine builder offers a new development to the trade it has been mill proven at considerable cost in time and money to the machine builder, and is economically a sound investment for the mill. Foreign machine builders are prone to publicize developments before they are fully completed, and to sell developments based on claim and not fact. The purchaser then runs the mill tests at his own expense, and often at considerable loss, all of which is not publicized for obvious reasons.

Tried And Abandoned

Many of the so-called new developments produced today by foreign machine builders were tried out by U. S. builders years ago and were abandoned as not economically sound from the mill standpoint. Spinning drafting elements capable of drafts of up to 400 were built by Saco-Lowell Shops and installed in a New England mill over 20 years ago. This system was technologically feasible then but was abandoned because mill tests proved conclusively that the economics were not sound.

It Must Be Practical

Practical automation is economic automation. We can evolve an automated engineering masterpiece and, at the same time, create a colossal economic blunder. Pure automation is not salvation but suicide if it is achieved at the expense of sound economic practices.

Let's examine what "automate or liquidate" means to the American textile industry as it stands today. From a standpoint of plant facilities alone it means:

(1) The average multi-story mill construction is completely obsolete.

(2) Single-story construction with 25x10-foot, or 8-foot, bays and conventional ceiling height is equally as obsolete.

(3) Complete air conditioning is mandatory even if physical facilities are adequate.

The expression "take a ball to it" may be economically sound in Mid-Manhattan but it remains an unexplored risk in our textile plants of today. Economic or practical automation can be compatible with our existing plants; however, pure automation will demand new buildings as well as new concepts of design and construction.

Even if automation in its purest form could be accomplished without entirely new plant facilities, it would be enlightening to examine the economics of automatic productive machinery. However, bear in mind that this equipment is dependent on the other three facets of automation mentioned earlier, i.e., automatic material handling systems, automatic control systems, and automatic information handling systems.

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*From an address before the 107th annual meeting of the Northern Textile Association, Poland Spring, Maine.

**William F. Robertson of Riegel Textile Corp. used the term in his convention report as president to the South Carolina Textile Manufacturers Association, June 1-3, Sea Island, Ga. An abstract of his report was published in the July '61 issue of The Bulletin.

Spinning Evaluation

In our evaluation of machinery, spinning becomes the focal point both because of the economics of the operation as well as the controversy which rages today between the proponents of sliver-to-yarn spinning and those favoring the so-called "conventional" roving process.

The old expression "variety is the spice of life" really comes into its own when we examine the available types of sliver-to-yarn spinning frames. This fact may well account for some of the enthusiasm of its adherents and it should certainly add to the general state of confusion.

To name a few of these, we have a Japanese machine, which is in operation in the much publicized—but as yet unseen, at least by anyone but Japanese—Toyobo Mill. This particular frame has rows of small diameter, 36 inches high, cans set on the floor opposite both sides of the frame. Saco-Lowell has had similar type frames in full mill production for over five years. As a matter of fact, both Saco-Lowell and Whitin have long employed this same principle in another field—that of the spinning of extremely coarse yarns for the carpet yarn trade.

Next we have the single-sided sliver frame. Machinery manufacturers in Japan, as well as England, offer this type of equipment. However, the Japanese frame is still in the experimental stage, whereas the British frame is commercially available.

An interesting footnote to this type of spinning is that, according to the foreign builder's own production calculations and corresponding mill plans, the customer must be prepared to pay a premium of 32% in additional floor space to sample this type of variety. Significantly, this is based on producing 8s yarn which is considered in the range most favorable to this type spinning. For 20s yarn the premium increases to over 67%. I am sure we all appreciate that floor space is too valuable a commodity in the U. S. to sacrifice in such large measure.

How Are You Going To Creel?

Now we enter the field of real controversy—that of the spinning frame with the sliver creeled directly on the frame itself. By all odds, a Japanese machine with its small cans is the most widely publicized spinning frame of this type in this country as well as in Japan.

In addition, we again find a British firm offering a frame similar in principle, but employing a different means of presenting the sliver package to the frame. Instead of the can, a baller device is used on the draw frame which incorporates the Kruse system of inserting false twist.

The Japanese draw frame operates at a speed of 120 f.p.m. and the can contains an average of 3½ pounds of sliver. The British draw frame operates at speeds of from 120 to 150 f.p.m., with the weight of the balls of sliver ranging from 2-2/3 pounds to 4 pounds.

U. S. built machines are operating at speeds of 600 to 800 f.p.m. with delivery into cans as large as 20x42 inches. The tremendous saving of materials handling costs is a factor mill men should not overlook.

What About Quality?

In assuming that the quality of the finished yarn spun from sliver is equal to that spun from roving, we could well inject ourselves into an argument of considerable proportions. Nevertheless, for the purpose of this discussion, it seems simpler to do so in order to obtain an objective view of the economics involved.

In promoting their case, one foreign builder of sliver spinning claims that on 36s yarn the savings in floor space on a mill producing 1,000 pounds per hour amounts to 15.5%. This was with the same number of cards and the same number of spinning spindles. The quantity of drawing was in favor of the "conventional" mill due to the fact that the second process of drawing, which prepared the creel package, ran much slower than did the first process.

Consequently, it is to be assumed that something in excess of 15.5% is to be saved by the elimination of the roving. Now the catch comes. Believe it or not, this so-called "modern" conventional mill was to be equipped with foreign built 10x5¼-inch roving frames producing a 1.60 hank roving at a spindle speed of 800 r.p.m. Figures obtained from one of the South's really up-to-date mills on somewhat finer counts show U. S. built 14x7-inch roving frames producing a 1.00 hank roving at a spindle speed of 1,200 r.p.m.

Claims Look Foolish

The above combined with the fact that drawing speeds commonly used in this country are from 50 to 100% higher than the breaker drawing and five to six times higher than the packaging drawing used in the sliver-to-yarn mill soon makes this claim of 15.5% look rather foolish.

Returning to the spinning room, the creel package presented to the foreign sliver spinning—as has been said before—weighs roughly 3½ pounds. Our modern American 14x7 roving frames producing the 1.00 hank roving previously mentioned obtain a net package weight of approximately six full pounds. To compound this considerable advantage, we also must realize that to creel and piece-in a strand of sliver is far more difficult and time consuming for the operator than is the creeling and piecing-in of roving.

The one sliver-to-yarn mill I visited in this country that is equipped with foreign manufactured sliver spinning and packaging drawing is a classic reflection of the preceding analysis in that the spinners' workloads are less than half of what is considered standard for other domestic mills spinning similar counts on our so-called "conventional" American built machines. In other words, the labor costs in the spinning room in this sliver-to-yarn mill are doubled.

Research Will Continue

In all fairness, however, we domestic machinery builders are aware of the fact that the roving frame does not lend itself to a system of automatic materials-handling even though it is more economically sound in mill practice as we know it today. With an eye to the future, our research and development staffs are constantly seeking a means to blend into some piece of equipment those factors which will retain the economics and complement the material handling requirements.

New Methods For Improving The Wear Resistance Of Wash-Wear Cotton Collar And Cuff Materials

S.R.R.L. STUDY FINDS PROMISE IN BONDING UNTREATED COTTON TO AN INTERLINER WITH WASH-WEAR PROPERTIES

**By TERRENCE W. FENNER,
ROBERT M. REINHARDT
and
J. DAVID REID,
Southern Regional
Research Laboratory***
New Orleans, La.

DURING the course of extensive chemical research on improvement of wash-wear cotton a number of observations have been made which are not strictly chemical in nature but which should be of value in the improvement of wash-wear cotton garments. It is the purpose of this paper to describe these observations.

One of the main problems connected with the chemical treatment of cotton to give it wash-wear properties is a considerable loss in tearing strength and abrasion resistance. Part of this loss is due to some degradation of the cotton because of chemical treatment—usually under acid conditions at high curing temperatures. Another part of the loss is due to decreased extensibility of the fiber due to the crosslinking which takes place.

Wash-wear properties of cotton are due mainly, of course, to crosslinking of the long cellulose molecules which make up the fiber to set it into a form which it will retain through the rigors of wear and laundering. The strength loss due to decreased extensibility, therefore, is almost inevitable because this very setting of the fiber concomitantly reduces fiber extension and thus the share which each fiber may have in resisting tear or wear.

Loss of abrasion resistance is a particularly serious problem in cuffs and collars of garments because of edge abrasion. At S.R.R.L. a number of methods have been investigated to overcome this problem. Mass production methods are usually not amendable to procedures which involve special treatment of a particular part of a garment but collar and cuff material for shirts is often specially produced, sometimes from separately made narrow rolls of cloth.

In experimental work, cotton shirts have been treated, in the garment form, with a finishing agent and the resulting wash-wear garment evaluated for various properties *(1, See references at end of article)*. In the course of this work it was noticed that in some cases the commercial collars made with cellulose acetate or similar bonding agent were reasonably satisfactory both in appearance and durability. This type of collar does not seem to be generally used on wash-wear shirts and investigation for this purpose seems promising. One disadvantage of this type of collar, however, is a tendency for the collar to bend somewhat or even crease under the influence of high temperature drying. Further, this type of collar cannot be used where a soft collar is desired.

In an attempt to produce cuffs which were more resistant to wear, the amount of crosslinking agent used on the cuffs was reduced. This resulted, as might be expected, in some increase in durability but with a corresponding decrease in wash-wear appearance. Since collars and cuffs are areas where custom demands a particularly good appearance, this approach was abandoned.

Another method used was to increase the amount of additive softener used on the cuffs. Practically all wash-wear goods are treated with additive softeners. The softener consists of a long chain compound which is too large to penetrate into the fiber and thus stays on the surface to serve as a lubricant to give a better hand to the fabric and to improve fiber slippage. The greater lubricity improves abrasion resistance and allows the fibers to slip into place better, often raising the wash-wear rating one-half to a full point. Tearing strength is improved because the slippage allows a more even distribution of stress *(2)*. This method has a serious defect, that of wet soiling, which is attributed to certain additive softeners *(3)*. Wet soiling occurs when the additive material softens under high laundering temperatures. If the additive becomes tacky, soil from the laundering solution is picked up by the additive and adheres permanently to the cloth. The tackiness varies with the type of additive. Unfortunately, the better additives with regard to fabric properties may be the worst offenders in regard to wet soiling. However, polyurethane, one of the most widely used softeners, has good resistance to wet soiling *(4)* and was used in the above experiment.

Dry soiling also may occur. In the case of untreated cotton, small soil particles on the order of 0.1 micron in diameter may be wedged firmly into the "crevices" of the cotton fiber surface and become difficult to remove (see Fig. 1). Fiber treated with an additive does not have these crevices because they are covered up (see Fig. 2) but dry soiling may occur if the particles are ground by force into the surface. Cuffs and collars are particularly susceptible to physical forces of soiling. Nevertheless, this approach to the problem of improving abrasion resistance of collars and cuffs may be worthy of further consideration.

The conclusion reached from the above experiment is that with regard to abrasion and laundering, cottons finished for wrinkle resistance, even with softening agents used with their maximum effectiveness, are not as good as untreated cotton. Therefore, attention was turned to methods in which the

ABSTRACT

NEW METHODS for the production of cotton collar and cuff materials with wash-wear properties and good abrasion resistance have been investigated. Among the more promising approaches to this objective is that of bonding untreated cotton to an interliner which has wash-wear properties; that is, one which is wrinkle resistant and smooth drying. Thin polyurethane foam and resin-treated cotton have been successfully used as interliners.

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*One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

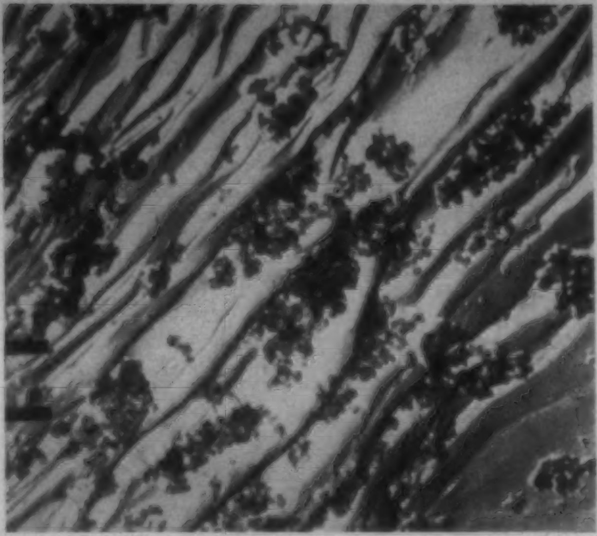

Fig. 1—Surface replica of cotton fiber showing entrapment of soil particles in surface depressions. Distance between marginal markers represents one micron.

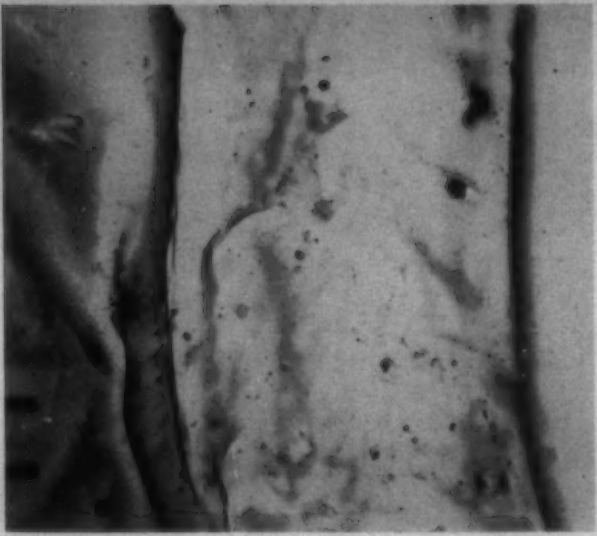

Fig. 2—Surface replica of cotton fiber treated with soft acrylic latex dispersion which covers fiber surface irregularities. The dark particles are believed to be soil picked up after the latex treatment.

surface of the collar or cuff could be untreated cotton while still possessing wash-wear characteristics.

Exploratory experiments showed that if untreated broadcloth was heat bonded to $\frac{3}{32}$-inch polyurethane foam the fabric was smooth drying. Of course, foam linings are being used to a large extent at present but only incidental mention of adding to resistance to wrinkling has been made *(7)*. Frishman *(8)* has commented on the stabilization of knit fabrics by foam and has shown that the heat sealed combination permits passage of air approximately as well as the original cloth because the heat sealing causes an increase in pore size which makes the polyfoam reasonably porous. Furthermore, laundering characteristics, particularly drying time, are good. The physical characteristics indicate that these fabric structures should be of great interest to wash-wear garment designers and manufacturers. However, the foam interliner used was somewhat bulky for shirt cuffs and collars.

Exploratory experiments were then made to see if the same principle could be applied where an adhesive crease-resistant cloth could be substituted for the polyurethane foam. A number of fabric adhesives are durable to laundering. For example, in one case denim knee patches are applied with adhesive to overalls. In another case, patching material is widely sold for hot application to mend garments.

Experiments showed that if two pieces of fabric, one untreated and one smooth-drying, were bonded together with an adhesive, the resulting fabric was smooth-drying with a rating only slightly lower than that of the treated fabric. This result was encouraging and further trials were made to confirm it and to utilize the information in the preparation of simulated cuffs for testing.

A cuff normally consists of three layers of fabric, the inner one being of rather stiff fabric. Exploratory experiments showed that if the inner fabric had good smooth-drying properties and was bonded to the other two, a smooth-drying cuff could be prepared. Although somewhat stiffer than the usual soft cuff, it was less stiff than the generally acceptable starch cotton cuff. Abrasion resistance was excellent and nonsoiling characteristics were approximately equal to those of untreated cotton.

Details of the experimental results are given below. Further work of this type on collars and cuffs will not be done at S.R.R.L. because facilities are not available and developmental work would need to be done by each manufacturer to suit his individual need. However, the results obtained indicate that an adaptation of the above described method of making cuffs or collars could greatly increase the service life of the garment.

Experimental

A three-layer fabric structure was prepared by bonding layers of untreated cotton broadcloth to the top and bottom of a cotton interliner with a thermoplastic adhesive on both faces. Adhesion of the layers was accomplished by carefully ironing with an electric hand iron at about 425° F. The wash-wear rating [by comparison with the standards published by the A.A.T.C.C. *(9)*] of this structure was 3 after washing and tumble-drying.

Another structure was prepared by similarly bonding untreated cotton broadcloth to the top and bottom of an interliner which had been finished with a wash-wear formulation containing dimethylol ethyleneurea as the crosslinking agent. This structure had a wash-wear rating of 5 after washing and tumble-drying.

These structures were tested for abrasion resistance by three methods—flex abrasion *(10)*, flat abrasion *(11)* and edge

Table I—Wear resistance of cotton structures as indicated by various abrasion tests.

	Abrasion Test		
Cotton Structure	**Flex Cycles**	**Flat Cycles**	**Edge Cycles**
Broadcloth, untreated			
1 layer	310	......	......
3 layers	390	200	820
Broadcloth, wash-wear			
1 layer	90	......	......
3 layers	135	125	285
Broadcloth, bonded			
3 layers, untreated	600±100**	355	370
3 layers, center treated*	2460±160**	530	800

* Outer layers are untreated broadcloth bonded to wash-wear cotton interliner.

** Average of two replicate samples, three determinations per sample.

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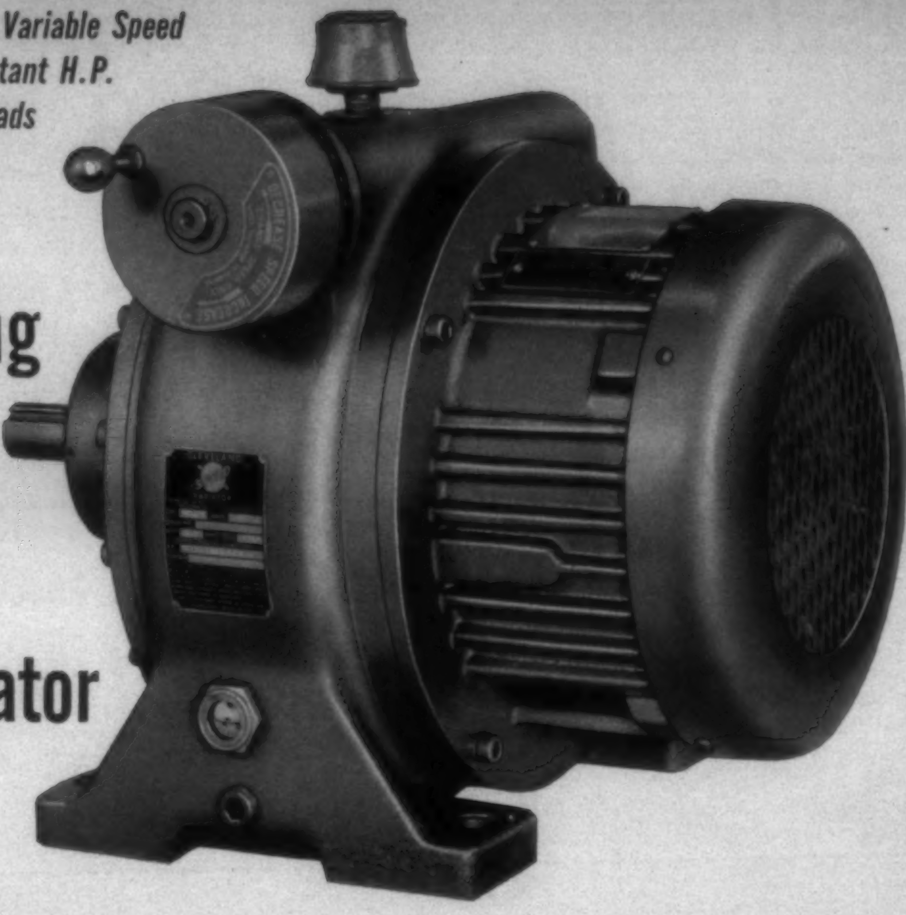

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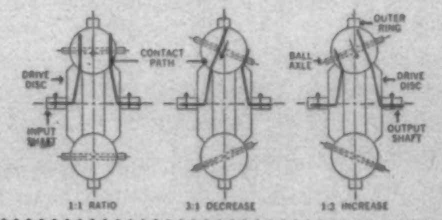

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abrasion *(12)* using 1 pound pressure on the top bar and 4 on the bottom. The results are shown in Table I. Also included in the table, for comparison, are data on the three-layer nonbonded structures of untreated and wash-wear finished broadcloth. Flex abrasion tests of single layers of the latter two fabrics also are listed.

The data indicate the superior resistance of the bonded wash-wear structure. Admittedly, abrasion tests often do not correlate with wear tests. The results obtained are complicated further by the cushioning effect of the three layers and—with edge abrasion—the change in angle of bend of the fold between resilient and nonresilient cloth. However, considered relative to each other it may be seen that the flex abrasion resistance of the bonded wash-wear structure was about four times as great as the bonded untreated broadcloth. Flat abrasion resistance was about 50% better. Resistance in the edge abrasion test was as good as three layers of unbonded broadcloth and more than twice that of bonded untreated broadcloth.

Summary

It has been shown that a central smooth-drying member of a three-layer fabric structure can impart wash-wear properties to the resulting structure. Polyurethane foam or a wash-wear finished cotton interliner may be bonded between two layers of untreated cotton to produce such a structure. Furthermore, with untreated cotton as the surface member, excellent resistance to abrasion was achieved.

In view of these results, it appears that a thorough study by shirt manufacturers of bonded collars and cuffs may lead to much improved wear resistance in wash-wear cotton garments. Such a process may offer industry the opportunity of combining wash-wear properties with the strength and durability of untreated cotton, thus increasing the service life and, therefore, acceptance by the buying public.

Acknowledgment

The authors wish to thank Julia M. Sloan for determining the abrasion resistances.

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A Short-Cut To Figuring Loom Production

THE supervisor often needs to know the actual production to date on a certain set of looms. He may want this information to check the ability of a new weaver, to see if production is affected by some unusual condition, or for any number of other reasons.

He can, of course, use the conventional method of transcribing the readings of each pick counter, adding the total and dividing by the 100% production figure and have an accurate answer. But we can also do it by a much shorter and quicker method. A slide rule can be used, but the few calculations that are needed can be quickly made with the aid of pencil and notebook.

First, figure the 100% production figure for one loom of the set and also the 90% production figure for one loom. Now look at the counter of the first loom and see how many units (1,000 picks) it shows over or under the 90% production figure.

Add or subtract, whichever is applicable, the units shown on the counter from the 90% production figure. Carry this figure mentally to the next loom and repeat the calculations, carrying forward the difference only between the actual counter reading and the 90% production figure. Proceed in this manner until all the looms of the set have been covered.

Here's an example:

Each loom of the set operates at 200 p.p.m. or 12M picks per hour. The check is made after the looms have been operating for 20 hours since the counters were read and turned back to zero. At this time the 100% production figure would be 240M picks.

To simplify the reading we use 90% of the above figure which is 216M picks and for the average loom will be more nearly the actual reading of the counter.

The first counter reads 212. Mentally subtract 216 from 212, which leaves —4. Forget all the figures except —4 and proceed to the next loom. This counter reads 218, which is 2 units above 216 so we add 2 to —4, which leaves —2. The next counter reads 230, which is 14 units over the 90% production figure of 216. We add the —2 to 14 and now have a figure of 12 plus.

Proceed in this manner until all the looms of the set have been covered and you will finish with a mental picture of, say, 54 units above the 90% production figure of 216.

There are 36 looms in the set, so each loom has an average of 1½ units over the 90% figure, or 217½ units or M picks. Divide by the 100% production figure of 240 and you have an actual production figure of 90.62% for the weaver's set.

This method seems complicated, but after a few practice runs the supervisor can figure the actual production of any weaver as fast as he can walk down the aisle and then do the simple computations that are necessary.

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If you're using drums of hydrogen peroxide in large quantities, it may pay you to switch to bulk deliveries. You can easily determine this with the handy nomograph below.

1. Contact your local Solvay branch or distributor and ask for the prices of 35% or 50% peroxide these three ways: by drum, by bulk in minimum quantity of 1,000 gallons, and by bulk in minimum quantity of 2,500 gallons. *This will indicate the difference between your present drum and the bulk price* of the quantity of hydrogen peroxide you can use.

2. Under "A", mark the number that represents how much hydrogen peroxide you use each year.

3. Under "B", depending on your preference, *use the 1,000 gal. bulk or 2,500 gal. bulk scale* to mark the difference between drum and bulk per pound price.

4. Finally, place your ruler connecting points on "A" and "B" and extend it to the appropriate scale on "C". This will show your annual savings in peroxide cost by converting from drums to bulk.

(**Example illustrated:** a customer who annually consumes 70,000 pounds of 35% H_2O_2 can take advantage of the $.021 differential between the drum and 1,000 gal. bulk price to save $1,500.)

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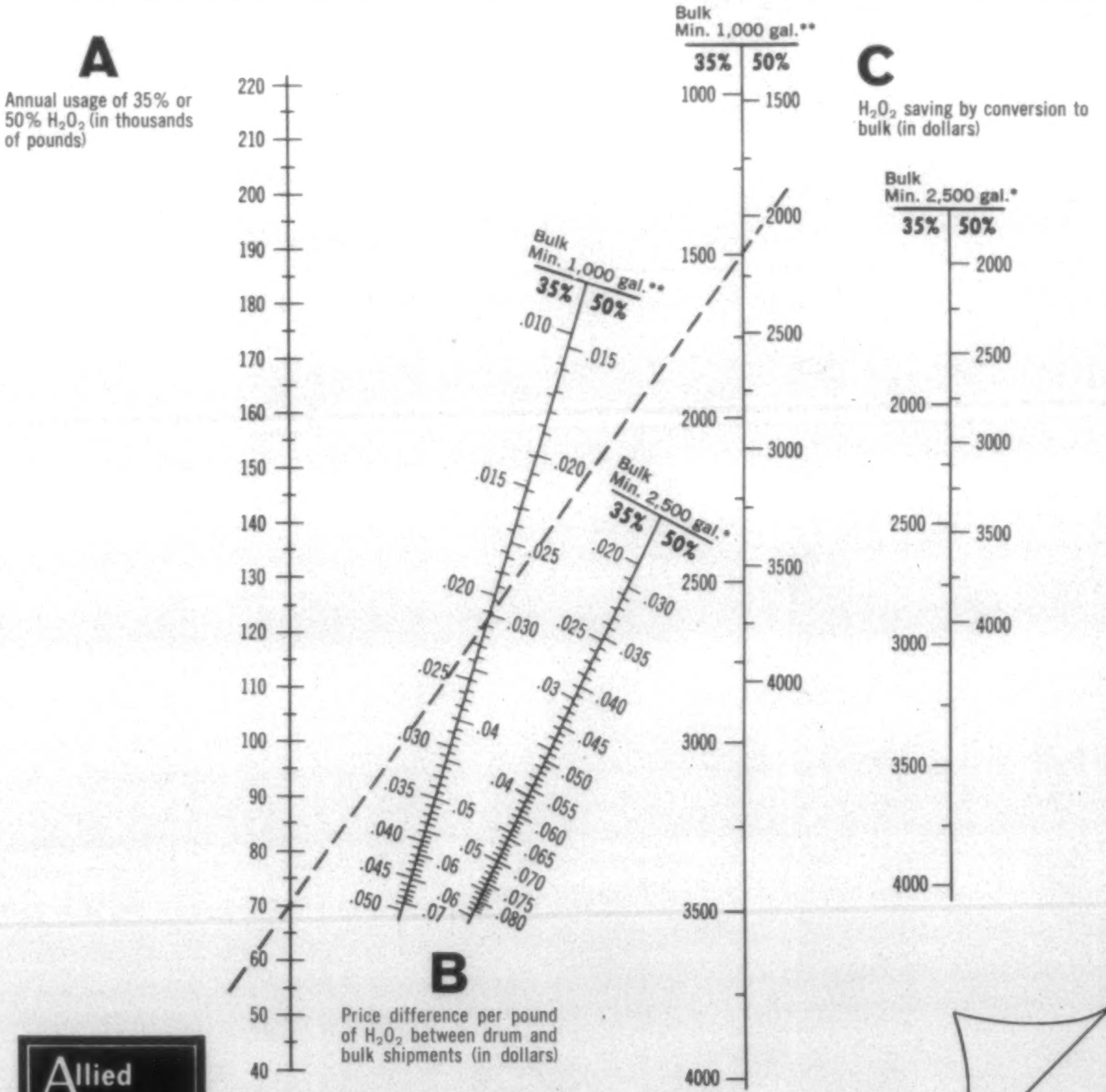

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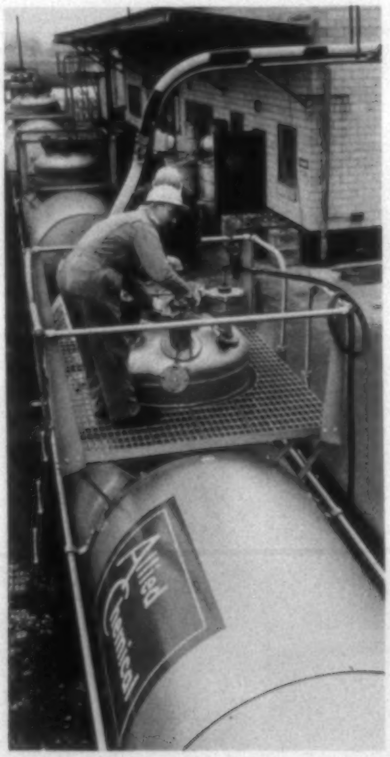

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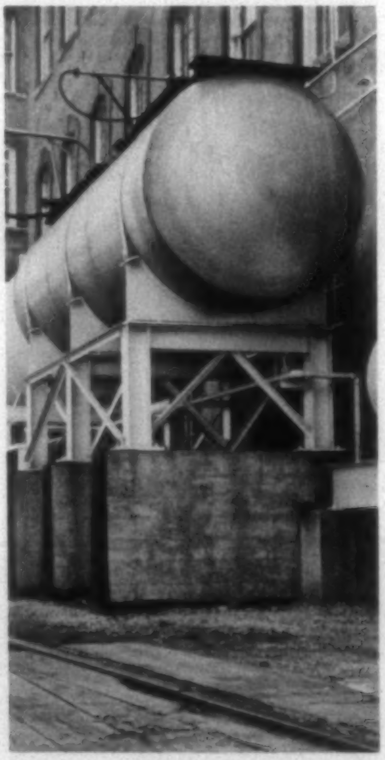

Dyers And Finishers Have Had Their Problems Keeping Pace With New Fibers, Special Finishes

MANY IMPROVEMENTS HAVE BEEN MADE IN EQUIPMENT FOR THE GROWINGLY COMPLEX WET FINISHING FIELD

By JAMES H. HUNTER*
James Hunter Machine Co.
North Adams, Mass.

WITH the development of new fibers, both of the acrylic and polyester type, the problems of the dyer and finisher have been magnified. The continuing promotion of these new fibers, the acceptance of blends and the necessity for special resin finishes, such as crease resistance, wash and wear, etc., severely tax the ingenuity not only of the finisher, but of the machinery manufacturer as well.

In the never-ending effort to reduce costs, but maintain quality and control, the manufacturers of finishing equipment are faced with problems not necessarily inherent in the spinning and weaving field. The degree of versatility of machines is severely taxed, depending on the type and weight of the fabric, as well as the chemical treatment involved. Over the past several years, considerable improvement has been made in American finishing equipment, but with few exceptions, it has been a process of evolution and not of revolution. The streamlining of operation into continuous processing, both in the woolen and worsted industry as well as synthetic and cotton finishing, has become the exception rather than the rule for most mills.

The purchase of complete new equipment for range operation, in most cases, is out of the question and, therefore, the answer lies in automating the existing machines. Some of the most significant contributions to the cost and quality factors made recently have been in the field of automatic controls.

Thinking first in terms of the woolen and worsted industry, one of the first wet finishing operations is fulling or felting of the material. No continuous method has ever been devised for this most important operation, although at the present time there is available and made in America extremely successfull continuous dry fulling mill systems for the removal of carbon material in goods after carbonizing. Heretofore this was an additional operation. The fabric was usually carbonized in one area and then removed to a dry fulling mill where it was run in a conventional batch dry process for several minutes until all of the carbon had been crushed.

Now, with the continuous mill available, the equipment is placed at the delivery end of the carbonizing range and with no additional help, the fabric is run through and folded after crushing, rather than after carbonizing. In this way, for all practical purposes, the dry fulling operation is eliminated, as far as an extra operation is concerned. Also, the quality of the fabric is considerably improved, as the burrs and foreign material are much more readily removed when the fabric is hot than after it has had a chance to pick up moisture, due to its natural regain and humidity in the finishing room.

However, the fulling mill can now be controlled in a manner to allow a mill to set standards and reproduce results by a new control panel which allows the operator to preset several of the variables which exist in a mill. Basically, it is a pneumatic control for applying weight to the crimping box and also weight to the rolls themselves. Whenever the stop motion is activated, which occurs several times during a fulling cycle, the rolls automatically lift and the cover of the crimping box lifts automatically. As soon as the mill is started, these regain their original position as set on the control board. Fulling times and cycles are considerably reduced after the standard has originally been set. This is probably the most significant advance in fulling technique in recent years.

Similar programing is now possible for the operation of both the conventional dye beck and the dolly washer. Foxboro Cyclelog controls have been available for some time to control dye becks, and recently a similar type of automatic control has been applied to the dolly washer. Variables such as the heat of the water, the time of both rinse and scour, and the amount of soap metered into the washer are all completely automatic, so that once the proper procedure is established for a certain fabric, the controls are set and the machine is filled with cloth, and that is the end of the operator's duties, except for visual attention. All steps in the process referred to above are controlled automatically.

Of particular interest to the woolen and worsted finisher, the manufacturer of knit goods fabrics and the producer of blends, is a continuous washer which eliminates the necessity of the batch method. In this machine, the pieces of cloth are sewed end to end and fed into the machine at speeds ranging from 40 to 60 yards a minute, depending on the production requirements of the mill. As the cloth comes out of the machine, it is run through a scutcher and squeeze rolls, and folded onto trucks for the next process.

The following is a calculation based on actual operating data from a well-known woolen mill:

Basis:—

(1) Assume production of 2,800 pieces per week.
(2) Average weight per yard 12 ounces.
(3) Average piece length 72 yards.
(4) Cost of steam 60 cents per 1,000 pounds.
(5) Water consumption 50 gallons per pound (dolly).
(6) Water consumption 10 gallons per pound (continuous).
(7) Rinse water temperature 90° F. Base water temperature 50° F. (assumed).

$$\frac{2{,}800 \text{ pcs.} \times 72 \text{ yds./pc.} \times 12 \text{ oz./yd.}}{16 \text{ ozs.}} = 151{,}200 \text{ lbs. cloth scoured/week}$$

151,200# cloth × 50 gals. water to scour 1# cloth = 7,560,000 gals. water/week

7,560,000 gals. × 8.33#/gal. = 62,975,000# water/week.

62,975,000# water (90°-50°) = 2,519,200,000 BTU's to heat water (It takes 1 BTU to raise one pound of water 1°)

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*From a paper delivered before the 107th annual meeting of the Northern Textile Association, September 15, 1961, Poland Spring, Maine.

$$\frac{2{,}519{,}200{,}000 \text{ BTU'S}}{1{,}000 \text{ BTU's}/\# \text{ steam}} = 2{,}519{,}200\# \text{ steam to heat water.}$$

$$\frac{2{,}519{,}200\# \text{ steam}}{1{,}000} = 2{,}519 \text{ thousand } \# \text{ steam.}$$

2,519 thousand # steam × 60 cents — $1,571 to heat scouring water for one week, using dolly washers.

The continuous washer uses 10 gallons water to scour 1# cloth. Therefore, it will cost $\frac{\$1{,}571}{5} = \$314$ to heat water for one week in contiuuous washer

$1,571 — $314 = $1,257 saving in steam to heat water/week
$1,257/week × 50 weeks = $62,850 saving in steam/year

Labor Saving

8 dolly washers running 2 shifts with 4 men/shift = 8 men/day
1 continuous washer running 2 shifts with 2 men/shift = 4 men/day
8 — 4 = 4 men saved/day
Manpower requirements saved = $12,000/year labor saving

$62,850	steam saving/year
12,000	labor saving/year
$74,850	Total Saving Per Year with Continuous Washer

Investment

One 9-Bowl Cascade Washer	$75,695	Savings	$74,850
Installation	5,000	Less Depreciation (15 years)	5,379
	$80,695		$69,471

Return on investment before taxes	1¼ years
Return on investment after taxes	2½ years

In the wet processing field, there have been a great many improvements, particularly with the use of pressure systems. Pressure systems are synonymous with high temperature, and we generally refer to temperatures above 212° F., the boiling point of water at atmospheric pressure. The development and commercial production of hydrophobic fibers, beginning with nylon and progressing on into the polyester fibers, have not only increased interest in this area, but have made it imperative that a practical solution to the problems inherent in wet processing be established. The resistance offered by these fibers makes the diffusion of dyestuff into the fibers extremely difficult. The most important factor aiding the diffusion of dye into the fibers is temperature.

Because of the lack of equipment to process fibers or fabrics at elevated temperatures, both the fiber and dyestuff people have quickly developed dyeing methods which would utilize conventional equipment. In almost every instance, these methods called for the use of so-called carriers, by means of which it was possible to produce commercially acceptable depth of shade. Although this frequently required extremely long dyeing cycles, as well as other attendant problems, such as the need to later remove the carrier, it is true that completely commercially acceptable practices can be followed.

In spite of this, the industry could never overlook the basic fact that at elevated temperatures, dyeing times could be shortened and cheaper and heavier shades could be produced. For example, a fiber such as Dacron, a polyester fiber, when dyed at 200° to 208° F., requires an expensive carrier, but the same fiber can be dyed at 250° without this necessity.

Previous approaches to high temperature dyeing included the development of equipment such as autoclaves. These have been available in the yarn package field and for raw stock for many years. By simply carrying out the dyeing at elevated pressures, equally elevated temperatures are obtainable, with the resultant improvement in dyeing procedures.

In the field of fabric dyeing, however, the problem has been much more difficult. One of the earlier steps was the Burlington pressure machine, which ran fabrics on a perforated cylinder and pumped dye liquor through in the same manner as in package dyeing. The limitations, of course, were that it was a batch process, and only those fabrics of a sufficiently open nature to allow the passage of dye liquor through a multiple layer system could be dyed. The machine did find practical application, however, particularly in the tricot industry, and is still being used successfully for open construction fabrics.

Attempts have been made in Europe to pressurize jigs, although this alternative has never been accepted in this country.

Attempts to pressurize dye becks were completely unsuccessful, although one of the most significant steps yet realized is the new Burlington rope machine, which is built by the Gaston County Dyeing Machine Co. This machine, called the Jet Dyeing Machine, was introduced to the trade for the first time at the Knitting Arts Show in Atlantic City last Spring, and has received a great deal of favorable comment and publicity.

This particular machine can be operated either at atmospheric pressures or at elevated pressures, and was originally developed by Burlington Industries and is now licensed to Gaston County. The fabric to be dyed is compressed lengthwise in rope form and passes through a circular pipe. A jet of dye liquor is forced into the pipe under pressure, and the force of the jet moves the cloth through the pipe which serves, in effect, as the dye chamber. As the rope of fabric passes through the pipe, it is surrounded by dye liquor, and even dyeing is obtained.

The advantages of this unit, which dyes the fabric in single strands in rope form, are low dye liquor ratios, uniform temperatures maintained in all parts of the bath, and the dye bath volume remains constant, due to indirect heating and cooling by exchanger. Also, there are no reels or drives to chafe and tangle the strands of the fabric, as it is moved entirely by jet action and dye liquor flow. Friction is eliminated, since the fabric is always encased in liquid, and complete dye bath exhaustion is achieved.

High Pressure Continuous Operation

However, for some time, it has been apparent that the most desirable feature for high temperature work would be a continuous operation, which would necessitate sealing pressure in an autoclave. Such a seal would have to be designed to allow the passage of fabric in open width form continuously in and out of the pressure chamber. It was reasoned that a sufficiently high pressure and henceforth high temperature could be obtained in a saturated steam atmosphere, and practical continuous dyeing methods could then be devised for hydrophobic fibers. In addition, the possibility of improved procedures on other fibers has not been overlooked. At higher temperatures, dye and fiber molecular excitation could have practical results on natural fibers also. The advantages of continuous operation are obvious.

After a considerable amount of experimentation, the James Hunter Machine Co. has developed the so-called Pressure-Lok High Temperature Wet Processing Machine. To date, there are no commercial installations, although one is now being built. This will be installed in the finishing department of one of the largest Southern mills, and will be used for the continuous open width bleaching of cotton fabrics. A laboratory machine has been installed for the past 18 months at the Becco Chemical Division of the Food Machinery & Chemical Corp., where continuous studies of high temperature wet processing are being made. Although most of the work at Becco has been on bleaching, the results of which have materialized into our first commercial sale, extensive work has also been done on dyeing with outstanding results reported.

This Pressure-Lok machine, as now constructed, is a simple roller conveyor system, with the rolls being carried on a rack contained in a cylindrical autoclave. Internal dance rolls control the tension on the fabric. One of the unique features of the Pressure-Lok seal is that it is driven and, therefore, the speed relationship between the entering and leaving seals can be controlled by means of a compensator. Also, the unit is sealed to these high temperatures without putting an excessive amount of pressure or squeeze on the fabric being processed.

The advantages to be obtained with this development are:

(1) Shorter reaction time means less cloth in the system. There is practically no lost production in filling the system, and consequently less floor space is required. Bleaching times of less than a minute are now considered practical.

(2) The cloth will be kept under slight tension warpwise, as well as being open width. According to textile engineers, the preparation of cloth under these conditions would not only eliminate crease marks, but would also eliminate the very fine wrinkles sometimes called "memory wrinkles." These are thought to originate in fabrics because of a small variation in warp and filling tensions, which could occur either in the spinning or weaving operation. The advent of continuous dyeing and particularly resin treatment has brought these faults into considerable prominence, and until this time, no positive solution has been available.

(3) Since a relatively small yardage of cloth is in process at any one time, this system would be very advantageous for small lots of different types of cloth which require changes in treating conditions. For example, at linear speeds of 100 yards per minute with a bleaching time at the most of one minute, only 100 yards of cloth would be in the system at a given time. In conventional systems now available, this figure would be closer to 5,000 yards of cloth.

(4) Any failure in chemical that affects the final results would be detected immediately. As stated above, more than 5,000 yards of cloth would be involved in present equipment before these poor results were noted.

(5) The equipment would be relatively simple to operate and maintain, as there would be no conveyor belts or complicated bearing devices to keep synchronized.

Turning next to the continuous washing of cotton fabrics, many new machines are currently available. These include equipment with redesigned counterflows with provision for oscillating both the carrying rolls and the fabric itself to increase penetration and washing action, and continued studies of the use of ultrasonics. This latest technique is of extreme importance, and if the economics of providing a power source are solved, in the very near future a complete new technique will be available, both of continuous pad dyeing and for scouring, with the use of ultrasonic equipment. As a matter of fact, there is under test such a unit in one of the leading dyestuff and chemical laboratories in this country. The results so far are extremely encouraging, although by no means conclusive.

In the field of drying, there have been over the past couple of years very basic changes in existing drying equipment. The trend, of course, is to single pass operation with all types of fibers, lower profile machines, improved overfeeding to control residual shrinkage and electronic scanning devices for controlling any distortion of pattern or bow in either the warp or filling.

One of the most significant contributions to improved drying has been the application of moisture control instruments to the various drying ranges. It is probably safe to say that 100% of the present dryers which are not equipped with psychrometers are over-drying the fabric. Therefore, with automatic control of the residual moisture, any drying range can be stepped up in speed. This not only means greater production, but means a better hand to the fabric, as overdrying requires additional conditioning or creates a harsh and brittle hand. In cases where dryers are being run at the top speed available with their present drive, there is always the possibility of using lower temperatures, which have a resultant saving in steam.

A Case History

A specific report, which was made by one of the leading print plants in this country, is as follows.

In the white room, there are two white drying ranges. A 78x78 fabric was running at a top speed of 145 y.p.m. The fabric was overdried as indicated by our test instrument. However, this speed is the top speed available on these two ranges. Therefore, our recommendation was to install psychrometers and temperature controllers on the tenter frame, each with a recorder, which is of particular significance in checking from shift to shift. Such an arrangement would allow the operator to control the frame temperature to deliver fabric at 6 to 6½% moisture. This was done, and several advantages were available. In addition to the steam savings obtained, the yellowing of some goods was eliminated, which was due to the carry-over of chemicals. Also, the plant has reported that it is getting an additional color yield with the proper moisture content in the fabric, because it has greater absorbency than bone-dry fabric run on the print machine.

The next spot in this finishing plant that was checked was the dry cans following the soapers and in this particular situation, the fabric was coming off the cans with less than 3% residual moisture. It was possible here to speed up the entire range 20% with the use of an automatic controlling instrument.

We have announced this month the addition to our line of moisture controls of a dual sensing unit, which is equipped with a forward feeler located in a position approximately halfway through the drying range that detects any change in the fabric weight or construction, so that the entire range is either speeded up or slowed down, whichever is required, before the fabric actually passes the final sensing and controlling point. Heretofore, whatever fabric was contained in the dryer would be overdried or underdried when a change in the fabric weight or original pick-up was made.

In many of the cases that I have referred to where it is possible to automate existing machines or equip a plant with complete new automatic ranges, the final criteria, of course, is how the equipment is operated by the mill personnel. Several systems are much more sophisticated than others. Probably the ultimate is a finishing range in one of the large worsted plants in the South, which has six distinctly different types of equipment operating in tandem and controlled by one man. In this particular case, there is a television set at the delivery end of the machine which projects what is happening back to the operator at the entering end. This is really the ultimate and shows what can be done with American ingenuity and imagination.

Textile Problems: They Range Far And Wide

LABELING LAWS, POOR QUALITY COTTON, LACK OF RESEARCH CITED AS INDUSTRY'S MAJOR HEADACHES

By V. B. HOLLAND,*
Cannon Mills Co.
Kannapolis, N. C.

LIKE every other industry, the textile industry is faced with a multitude of problems. Let us put our problems into two categories. One, those problems which are the result of economic retrogression. Two, problems which are produced by growth, progress, developments or if you prefer, changing times. Let us consider some of the problems coming under the second classification.

Legislation

During the past 20 years we have had only two laws passed by the federal government requiring technical quality control as a result of required labeling on consumer textiles. The first of these was the Flammable Fabrics Act of 1953 (Public Law No. 88, 83rd Congress) which made any textile manufacturer or finisher guilty of a misdemeanor upon failure to properly identify the flammable characteristics of any fabric used for wearing apparel. The whole success of such a law hinges upon a satisfactory and meaningful standard method for the evaluation of the burning tendencies of fabrics.

At the request of the Federal Trade Commission, the American Association of Textile Chemists & Colorists assigned a committee to work on this problem. After seven years of painstaking work, this group came up with an acceptable apparatus and procedure. This textile test method is unique in that it is the basis for a federal law and this method can only be revised or changed by an act of Congress.

The second and more recent piece of legislation is the Textile Fiber Identification Act put into effect March 3, 1960. This law requires that most textile products, with a few exceptions, be labeled as to their percent fiber composition with standard moisture regain on a 100% fiber basis. This law, like the Flammable Fabrics Act, is worthwhile and good in intent, but presents a number of difficulties for the textile manufacturer.

Procedures for the analysis of textile fibers and mixtures of fibers have not kept pace with fiber development. This means that there are no standard analytical methods for some of the newer fibers and considerable questionable improvising has to be done. Each year more new fibers with different quantities are introduced, greatly adding to the complexity of the textile technologists' problems.

Even with some of the old classical fibers we have our difficulties. To determine the fiber content of a yarn made up of cotton and linen, the standard A.S.T.M. Method consists of placing a sample under a microscope and counting a thousand fibers, separating the cotton from the linen. Send samples of yarn off of the same cone to three independent laboratories and you may receive test results which are 25 to 30% apart.

Both laws require accurate and detailed records. These must be kept for a period of three years after the sale of the textile. If at any time, someone complains to the Federal Trade Commission that a textile product does not conform to the requirements of either of these laws, the burden of proof rests upon the textile manufacturer who sold the product. Acceptable proof can only be found in accurate records prescribed by law.

Cotton Fiber Quality

The Southern textile industry is predominantly a cotton consuming industry. Hence, it follows that the economic success of our industry, to a major degree, is dependent upon fiber quality. In this area for the past few years our industry has been fighting a tough battle. A short time ago at a meeting of the British Empire Cotton Growing Corp. it was reported that the character of American cotton has fallen off to such a degree that growers in other parts of the world can sell their fiber at a premium over American cotton of similar staple and growth.

There are two developments of our times which are the principal contributors to this situation: (1) the mechanical harvester; and (2) the introduction of drying and cleaning. Machine picking results in lowering the grade of cotton due to the leaf particles, dirt, trash, etc., picked with it. A number of gins now use high temperature drying along with cleaners which greatly improves the appearance or grade, but results in a cotton with poor spinning qualities and reduced strength. This gives the farmer an advantage, but is imposing a serious handicap upon the textile industry.

The outstanding need in cotton today is strength and more strength. To attain this, you must have fine mature fibers with the necessary length. To find this we have to test every bale for fiber fineness, fiber strength, grade and make statistical length measurements. It becomes more and more difficult to find the cotton required by quality fabrics.

If you would like more information on this subject, may I refer you to Joe L. Delany's article, "Give The Mills The Cotton Qualities They Need," which appears in the September 1961 issue of the TEXTILE BULLETIN.

High Mineral Content

A secondary problem arising from the mechanical picking of cotton which many mills are not aware of is the relatively high mineral content produced by chemical defoliants and soil contaminates which become imbedded in the waxes, oils and pectins coating the fiber which no amount of dry processing can efficiently remove. Although as far as I know, the effect of this high mineral content on spinning quality has not yet been investigated, I am certain that it is not beneficial.

For years textile wet processors have been concerned with the mineral hardness of water and its effect on the bleaching, dyeing and finishing of cotton. A total hardness of 100 to 200 parts per million is very objectionable. By comparison, the cotton we process today may contain as much as 3600 p.p.m.

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*From a paper delivered before the Fall meeting of the Southern Textile Methods and Standards Association, September 21-22, Clemson College, Clemson, S. C.

of mineral hardness. In order to produce the quality finished cotton fabrics demanded in today's markets we are faced with the problem of removing these impurities efficiently by chemical means in order to keep the high labor costs of extra processing down.

Water

As Americans, we are in many respects characterized by our wastefulness. We take too much for granted and often place little value on the blessings we have. So it is with our greatest natural resource, water. Over the years, we have used our water like the government uses our tax money.

In the early days, our textile industry was small; so was our population and its needs were simple. Process requirements were simple and relatively little water was required. Then suddenly our exploding population brought with it the revolution of mass production and a high standard of living which made the textile industry almost as complex as the society which spawned it.

Continuous processing, the great increase in the use of dyes, the development of many tremendous production demands, has taxed our water supply until it has become a serious problem. If we were to experience a boom in business and at the same time, a two or three-month period of dry weather, many of our mills would find that shutdowns were necessary because of lack of water.

In tackling this problem we find that the following approaches are most helpful:

(1) Survey all wet processing operations, particularly where washes are involved. In washing or cleaning, water is a medium for remaining impurities and residual chemicals from fabrics. The efficiency of water for this purpose is largely dependent upon the amount of energy put into the system. Thus, additional squeezes, increasing the pressure on squeeze rolls and increasing turbulence or agitation will result in more effective cleaning and rinsing with appreciably less water.

(2) Since water is a commodity too many of us take for granted, there is a tendency for all mills to use more than they need. Recently, one plant reduced the water flow 5 to 10 gallons per minute on each of a number of continuous washers and substituted a recirculating wash for the usual running wash in the package dyehouse. The result was a daily saving of 1,000,000 gallons of water without sacrificing any of the quality of the goods produced.

(3) Reuse of waste water is an ideal means of conservation when conditions permit. For example, water from finishing mangles and the white washers in continuous bleaching ranges may be recirculated to effectively wash desized and causticized cloth in the earlier stages of wet processing.

Aside from the fact that an ample supply of water may be a matter of life or death to many textile plants, it should be kept in mind that water costs money. A large textile concern with its own water treatment plant and a fair quality of raw water can deliver acceptable process water for about a minimum of $86.00 per million gallons including overhead. If you are buying water from a city with a population of about 16,000, the city's cost on a similar basis would be about $165.00 per million gallons.

There is more to it than this. You must keep in mind that most of the water taken into a textile plant must sooner or later be discharged as waste. Not so many years ago this was taken care of by just dumping into the nearest stream. Now stream pollution laws make us clean this waste water before we dump it. This costs money, too. In fact, the cost of treating textile waste water ($100 to $110 per million gallons) may exceed the cost of purifying the original raw water. The cost of treating textile waste water can be kept at a minimum by keeping high solids and high BoD wastes separate and in as concentrated a condition as practical.

Growth Of Research

Now let's consider research. The growth of research in the U. S. can be divided into four eras corresponding to the four industrial revolutions. The first was founded on the utilization of steam power and iron along with the mechanization of cotton ginning. The second was produced by iron and steel. Then came electric lighting, the automobile and the rise of organized labor.

These three periods covering our history from the end of the Revolutionary War to World War II were begun by a very small group of research workers. Among them we find names like Whitney, Fulton, Morse, Edison and Ford.

We are now experiencing the fourth industrial revolution—ours.

Neil P. Ruzic, editor and publisher of *Industrial Research Magazine* has written some interesting comments on this subject. He points out that our present revolution is unique in the number of people working on it, its complexity, and the power to push the economy at a rate previously impossible. He brings out that in the first three industrial revolutions put together only 50 to 500 people were the principal contributors as regards effective, creative, patent-producing manpower. This can be compared directly with 5,000 to 50,000 top research and development engineers, leading scientists and highly-effective technical managers of today. In effect, about one hundred times more research effort and manpower is being spent on our fourth industrial revolution than on the other three combined. So it is with our textile industry; but in our case, there remains much to be desired.

Look At Synthetic Fibers

Consider synthetic or man-made fibers. If you examine the index of the *Man-Made Textile Encyclopedia,** you will find the trade names of approximately 160 domestic and 385 foreign fibers listed there. Since this book was published in 1959 a number of others have been made available. Research in this area has been tremendous.

In the main, these new products of research are attempts to overcome the weaknesses of the natural fibers. Considerable success has been realized in replacing wool and silk. Although some inroads have been accomplished, the synthetic fiber industry is finding it difficult to replace cotton.

Cotton is still king of the fibers. It has better all-around properties than any other fiber. Yet cotton had better not rest on its laurels. Reduction in fiber quality, the government two-price support system and foreign imports are adding their weight to the burdens of this fiber.

Viscose rayon, one of the older synthetics gradually lost a large share of its market to newer fibers over a period of ten years. It is now attempting a comeback in the form of a modification known as cross-linked rayon. In essence, this is another development to make rayon more cotton-like. This type of rayon is improved with lower shrinkage and higher wet strength. Cotton may be king, but for how long?

(Continued on Page 91)

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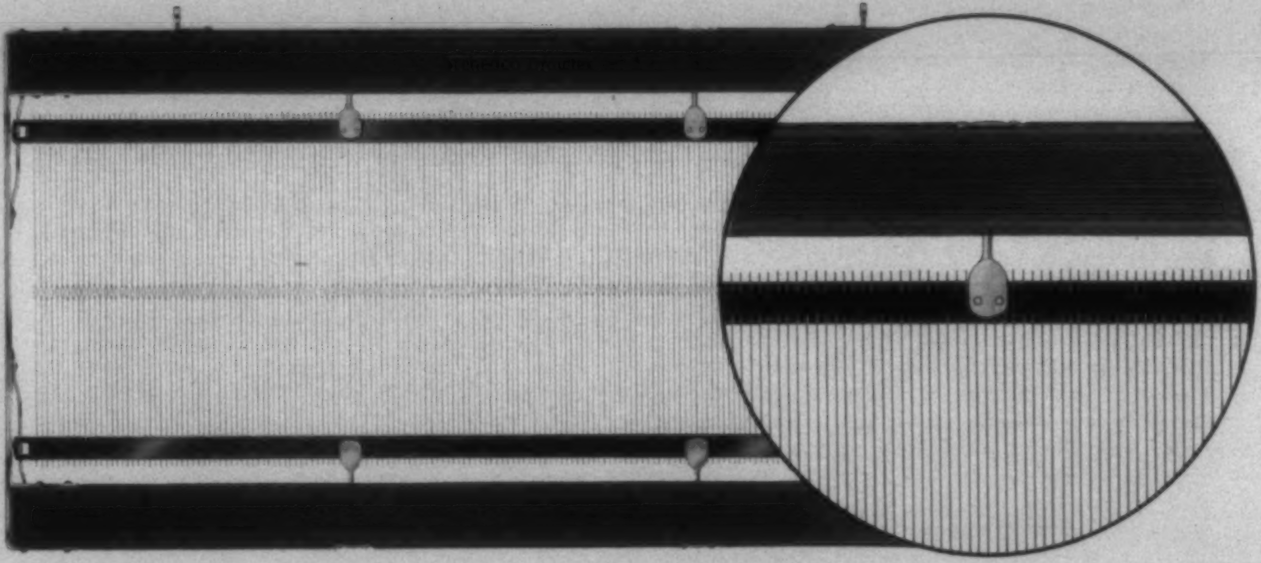
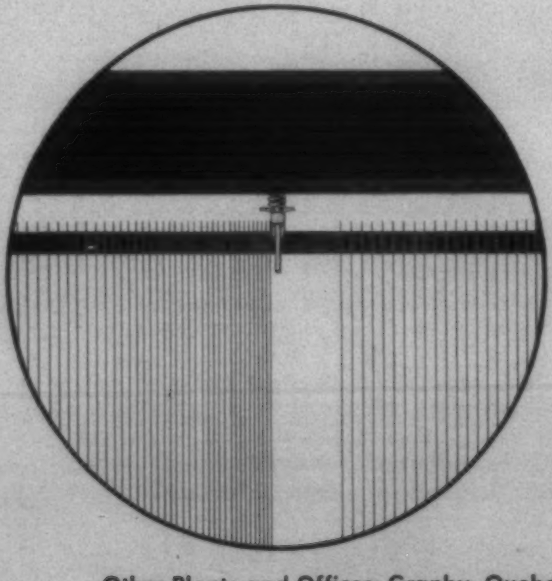
Stehedco

DRAWTEX HARNESS

IMPROVES EFFICIENCY AND QUALITY WITH PERFECT HEDDLE SPACING



Are your weavers and fixers handicapped by bunching of heddles at rod supports, as illustrated below?



Stehedco Drawtex rod supports allow completely free movement of the heddles. There is no obstruction to keep the heddles from finding their natural position on the rod. Therefore, warp streaks from heddle bunching are completely eliminated and down time to correct this condition is a thing of the past.

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How To Design And Lay Out Multiple Fabrics

OUR SERIES THUS FAR HAS DISCUSSED TRUE MULTIPLE FABRICS; THIS CHAPTER IS ON FILLING REVERSIBLES

By E. B. BERRY

PART 5

ALL the fabrics discussed thus far in this series have been true multiple fabrics; that is, fabrics that have two or more systems of warp and two or more systems of filling. This chapter deals with a class of fabrics that has two systems of filling but only one system of warp.

The Callaway Textile Dictionary defines "Filling Reversible": "Name sometimes given to napped cotton, woolen, or cotton and woolen bathrobe or blanket cloth. The face and back of the cloth are opposite in color scheme according to some plan or motif. The warp yarn is finer than the filling which is thick and soft spun and which must be in at least two colors. The colors are floated on the face or back, as desired, by using filling-face or warp-face weaves."

The weaves used are generally the four-harness regular twill, the four-harness broken twill or satins.

If the filling is inserted one pick of each color, a pick-and-pick loom will be required. This will place the fabric in a higher price range, therefore, the filling generally is inserted two picks of each color.

The first step in the layout of a filling reversible weave is to determine the size of the repeat. Two weaves will be used in the illustration; the 1/3 twill (this puts the filling on the face) and the 3/1 twill (filling on the back).

The face weave will repeat on four ends and four picks, and the back weave will repeat on four ends and four picks. This means it will take eight picks but only four ends for one repeat of the weave.

In this illustration, the customer wants a blanket with a solid color on each side, but one side is to be white and the other side is to be black. As explained in "Double Plain" weaves (T. B., Sept. 1961), it is sometimes best to start with one pick of a color. This is shown in Fig. 1. Since the face of the fabric is to be black, one black pick is shown on the left of the weave, followed by two white, then two black, two white and one black. This is the eight picks needed for a repeat, and is in the sequence of two picks of each color. Eight ends are shown, but the repeat is only four ends.

White is to be on the back, therefore all the white picks will be marked with a dot to designate they are to end up on the back of the fabric. This, too, is illustrated in Fig. 1.

Painting in the weave on the back picks is the next step. The conventional method is to place a sinker in the lower left-hand corner of the weave. From there, the regular 3/1 45° right-hand twill is painted. This is shown in Fig. 2.

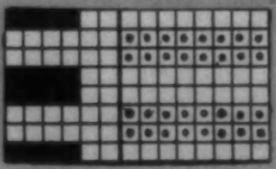

Fig. 1

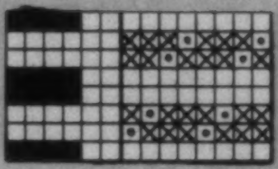

Fig. 2

How the face weave is painted is a matter of utmost importance. It is the 1/3 45° right-hand twill, but the starting point governs how the back pick will hide the face picks. Since they are different colors, we do not want to see white on the face, nor black on the back. If the one raiser of the face weave is placed next to the one sinker of the back weave, there will be a locking between these two picks and neither pick can slide. This will result in the black showing on the back and the white showing on the face.

In order to get the necessary sliding action, the one raiser of the face weave is placed in the center of the three raisers of the back weave. With the face weave started in this man-

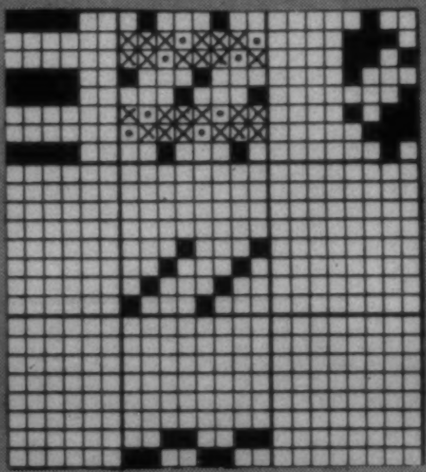

Fig. 3

ner, the one sinker of the back weave is in the center of the three sinkers of the face weave.

Thus the binding of the face picks will be hidden by the back picks and the binding of the back picks will be hidden by the face picks. The completed weave with the drawing-in draft chain plan and reed plan are illustrated in Fig. 3.

Many times the customer will want a design in the fabric. This takes the form of both colors appearing on the face according to a motif. Fig. 4 shows a checkerboard motif which is to be used as a base for a filling reversible blanket. Where black appears in the motif, black will be on the face of the cloth, and where white appears in the motif, white will be on the face of the cloth.

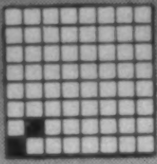

Fig. 4

This blanket is to be woven in a construction of 32 ends × 32 picks, with the blocks to be one-quarter-inch square. There is only one system of warp yarns so 32 × ¼″ = 8 ends for black and 8 ends for white, or 16 ends for a repeat warpwise. In order to count 8 picks on each side, 16 picks have to be thrown. This means there will be 16 picks to make the black block and 16 picks to make the white block, or 32 picks for a repeat fillingwise.

It is important to be sure that the proper color will appear in the proper position in the cloth, so that it will produce the desired effect from the motif. From Fig. 4, the lower left-hand corner is to have black on the face; therefore the white picks must be on the back. Fig. 5 shows this step. This is not the weave. It merely identifies which picks are back and in which area.

The weave on the back picks follow this. A sinker is placed in the lower left-hand corner, and the 3/1 45° right-hand twill is painted. It is a good policy to finish the back weave on these 8 ends, for the entire 32 picks of the repeat. The twill line will run continuously through these 32 picks regardless of the filling sequence of two face, two back or one face, one back. Painting the face weave is next, and is restricted to the 8 ends on the left and for the entire 32 picks. This is seen in Fig. 6.

Just how will the back weave be started on the remaining 8 ends? In order to make the design sharp at the edges in the warp direction, a raiser opposite a sinker between end 8 and end 9 is used. Where end 8 and pick 4 intersect, there is a raiser of the face weave. Next to it, on end 9, is placed a sinker of the back weave. This is shown circled in Fig. 6.

With this sinker, the back weave is established in the 8 ends on the right. The back weave also sets the face weave, so the entire 8 right ends and 32 picks can be painted. This is shown in Fig. 7. Included are the drawing-in-draft, reed plan and chain plan.

It is possible in filling reversible fabrics to have the ap-

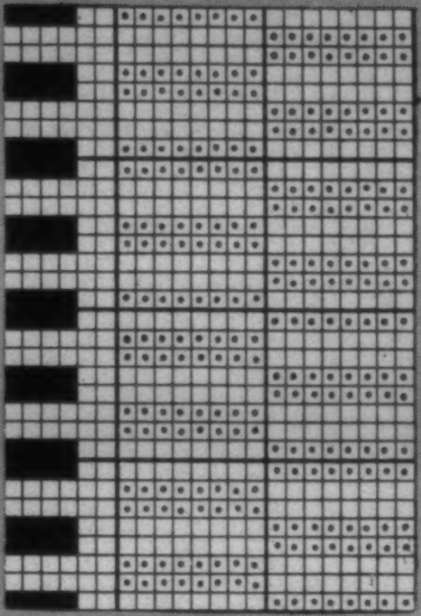

Fig. 5

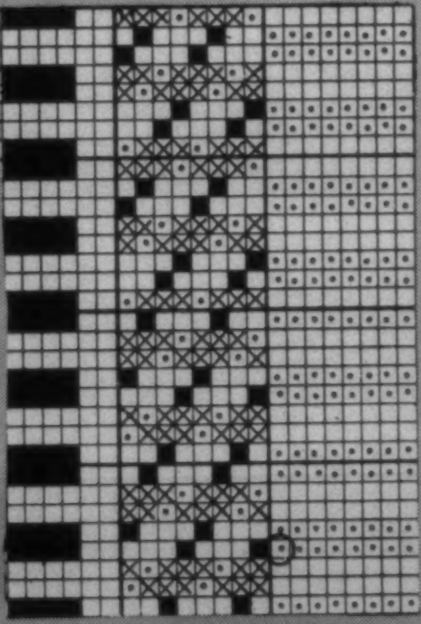

Fig. 6

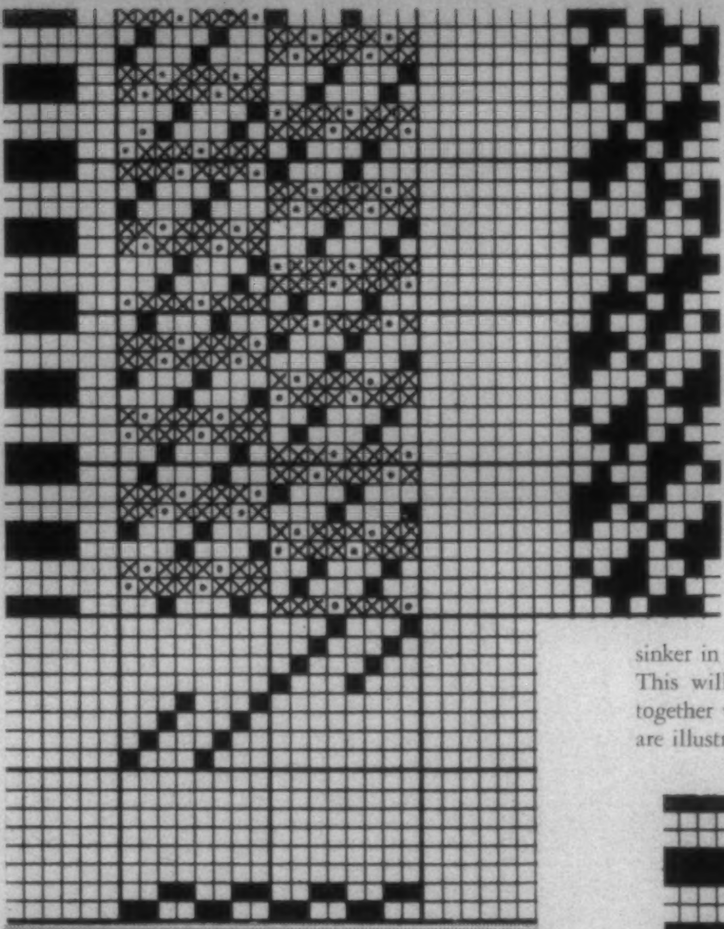

Fig. 7

pearance of three colors from what is really only two woven colors. In napping, the fibers from each of the two colors of heavy filling yarns are mingled to form a third color.

Fig. 8 is the motif for a blanket. Black in the motif will be black on the face of the cloth; white in the motif will be white on the face of the cloth, while an *x* in the motif will be grey on the face as well as back.

In certain areas all the black picks are on the face, while the white picks are on the back. In other areas all the white picks are on the face, while the black picks are on the back. To get the third color (in this case grey), certain areas as well have one black pick on the face followed by one white pick on the face. The back, of course, will be the same sequence of one white, one black. In the finishing these two will be blended together to form gray.

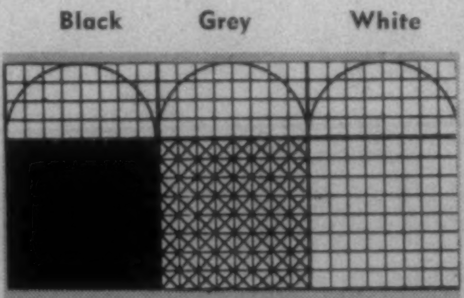

Fig. 8

By the proper selection of the first two colors, a good third color may be produced. Red and white will create pink. Blue and yellow will make green; red and yellow will make orange; red and blue will make purple, etc.

Fig. 9 shows the lay-out of the black and white filling, together with each area, and the face and back position of each of these fillings, to produce the desired color in the finished cloth. In this set-up, it is not possible to have raisers opposite sinkers between ends 8 and 9 or between ends 16 and 17. This means the break between colors will not be as sharp and distinct as seen in Fig. 7.

The backweave, therefore, is started with a sinker in the lower left-hand corner of each group of 8 ends. This will establish the face weave. The completed weave, together with the drawing-in-draft, chain plan and reed plan are illustrated in Fig. 10.

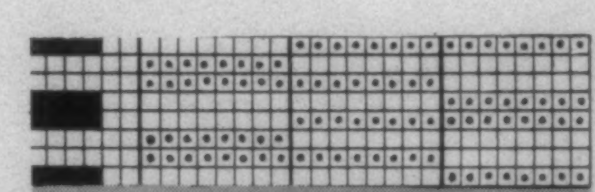

Fig. 9

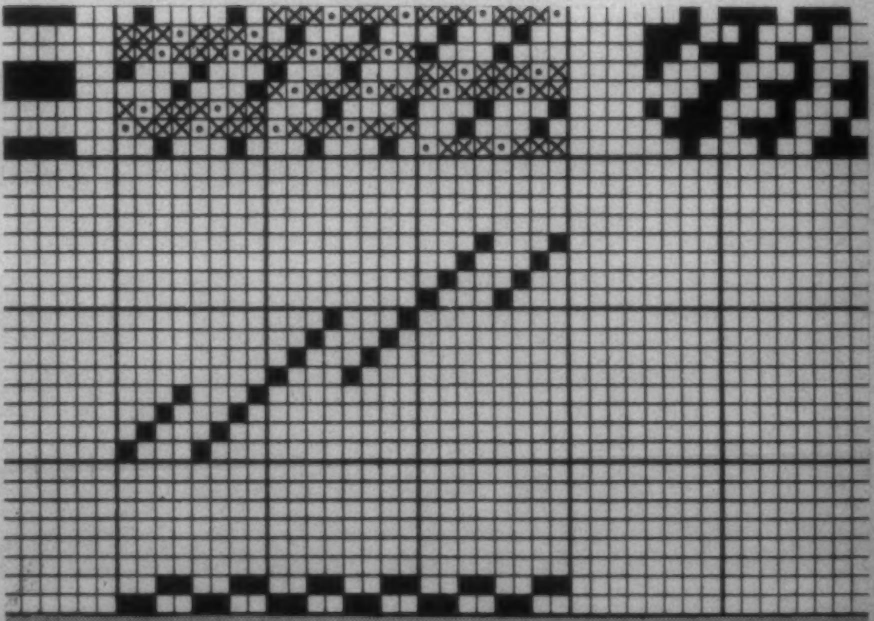

Fig. 10

Glenn H. Bull, Overseer of Spinning at Abney Mills, Woodruff, South Carolina, and W. T. Coker, Asst. Manager of Armstrong's Greenville, S. C., office, discuss production on this spinning frame. The frame is equipped with Accotex J-490 cots on front and back lines; aprons are NO-7075. ▶

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These same mill men know, too, that when they have an unusual problem, they can count on their Armstrong man to help. A good example is Armstrong man, Walter T. Coker, shown here working with personnel of Abney Mills, Woodruff, South Carolina.

Take advantage of the experience and knowledge of your Armstrong man when you have a roll covering or apron problem. Armstrong Cork Company, 6411 Davis Avenue, Lancaster, Pa.

ACCOTEX IS A REGISTERED TRADEMARK OF ARMSTRONG CORK COMPANY.

Alvin B. Poole, Overseer of Carding, and Walter Coker examine rolls on this drawing frame. Roll covers are Accotex NC-762.

Charles Sherbert tends a roving frame equipped with Accotex NC-762 cots on front lines; NC-727 cots on back lines; J-490 cots on middle lines; NO-7876 aprons.

◀ *D. E. Ross, Superintendent of this Abney Mills plant, chats with Coker about new textile developments.*

Armstrong

ACCOTEX COTS AND APRONS

Carding Highlights T.Q.C. A. Panel Talks

MACHINERY PANEL GIVES LATE REPORTS ON THE DUOCARD, S.A.C.M. CARD, UNICONER, AUDOMAC

ONE of the features of the Fall meeting last month of the Textile Quality Control Association, held October 5-6 at the Sedgefield Inn, Greensboro, N. C., was a panel discussion on "What's New In Textile Machinery?" Panel members included representatives from Crompton & Knowles Corp., Leesona Corp., Medley Mfg. Co., Saco-Lowell Shops and Whitin Machine Works. The remarks of each are abstracted in the following paragraphs, which also include a transcript of the floor discussion that followed the panel reports[*]

Bringle, Guggenheim

Serving as chairmen of the technical sessions at T.Q.C.A.'s Fall meeting were Emmett Bringle, Southern Webbing Mills, Greensboro, and Gus Guggenheim, The Kendall Co., Charlotte. The latter also served as program chairman for the meeting.

Some Test Results On The DuoCard

By A. K. BONGE,
Saco-Lowell Shops,
Easley, S. C.

UNTIL metallic clothing was developed, little was accomplished in carding to obtain higher quality and production with a minimum of capital investment. Average rates of carding have been from a low of 4 pounds per hour to a high of 18 pounds per hour based on the quality demand of this operation to fulfill end product requirements.

Early methods of double carding, while producing high quality card sliver, were objectionable because of the high cost of utilizing twice as many cards, no increase in production and the cost of the necessary auxiliary equipment and additional labor. The DuoCard has been developed by Swift Spinning Mills Inc., Columbus, Ga., to overcome these disadvantages.

The card consists of two standard cards in tandem with the delivery end of the first card removed to the doffer and the lickerin of the second card removed and replaced with another doffer. The sequence is as follows: first a lickerin; then the cylinder; a doffer; another doffer or suitable means of transferring the fibers from the first card to the second; then a cylinder; another doffer; comb or other device for removing fibers from the second doffer; and coiler. All cylinders and transfer rolls have been covered with standard metallic wire clothing.

The DuoCard has a modified type back screen on the second cylinder with the nibs removed and extended so that a better setting can be made at the point of the second doffer and cylinder. A stop motion has been applied to the final doffer because of the increase in production and speed.

The feeding apparatus to the second card has been improved by the application of the DuoCard since the fibers from the first card have been transferred to the second cylinder in an open and loose state with a very minimum amount of fiber damage. The transfer in all cases is from the heel of the wire to the point of the wire at all positions.

The settings for the two carding cylinders working in conjunction with each other have not been compromised. One cylinder may be set to remove trash, seed coat, etc., while the second cylinder may be set up for removing neps and short fibers.

Test Results

A detailed controlled test was set up at Swift with the DuoCard being run against a standard type card, both with the same type clothing and being in equal mechanical condition. All stock was controlled from the bale and through the processing equipment to eliminate any variable other than the cards themselves. A 13-ounce lap was fed to each of the card sets and a resultant grain sliver of 55 grains per yard was delivered. Production at 100% efficiency on the DuoCard was 22.87 pounds per hour and on the standard card the production was 8.10 pounds per hour. Flat strips on the DuoCard were 1.37% and 2.67% on the standard card. Motes and fly waste on the DuoCard was .85% against 1.02% on the standard card. The total waste on the DuoCard was 2.55% against the standard card total waste of 3.87%.

The decrease of up to 1.3% in waste removed at the DuoCard has not affected the quality of the yarn because it can be set to remove the type and quantity of waste on a more selective basis.

Uniformity on the DuoCard was 2.2% against a 3.2% reading on the standard card. Neps in the DuoCard were checked on the Uster Imperfection Counter utilizing 26s carded knitting yarn with a sensitivity of 3 on the imperfection counter. There were 60 neps in the DuoCard compared with 106 in the standard card. In the knitted fabric the DuoCard produced a brighter fabric. The yarn had a resultant skein break factor of 2088 and the U percent obtained from both the DuoCard and the standard card were equal, approximately 14.1% U.

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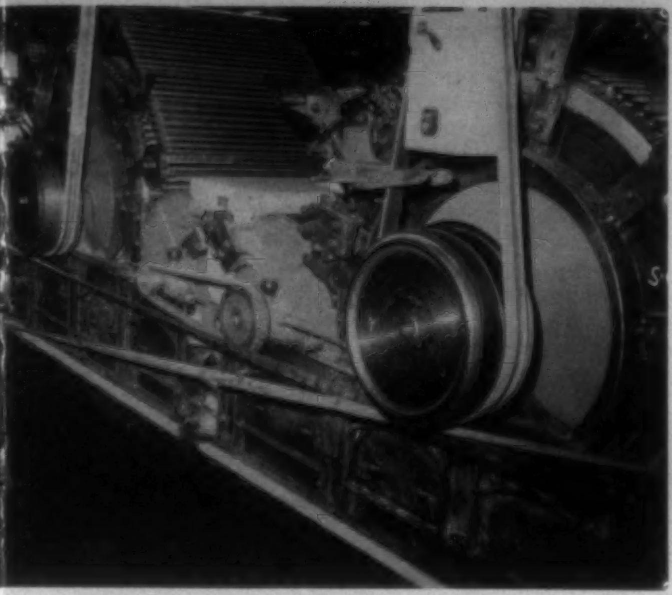
[*] For other papers presented at the meeting, see the following in the October 1961 issue of T.B.—"Comparison of Weight Feeding and Conventional Volume Feeding in the Opening Room," William T. Waters and Joe Phillips, School of Textile Technology, Auburn University; "Quality Control in Woven Stretch Fabrics," B. L. Hathorne, Sedgefield Laboratories, Greensboro, N. C.; "The Mechanics of a Quality Control Program in a Finishing Plant," R. L. Wilson, The Kendall Co., Bethune, S. C.; "Practical Application of Statistics in Quality Control," M. L. Walker, M. Lowenstein & Sons, Anderson, S. C.

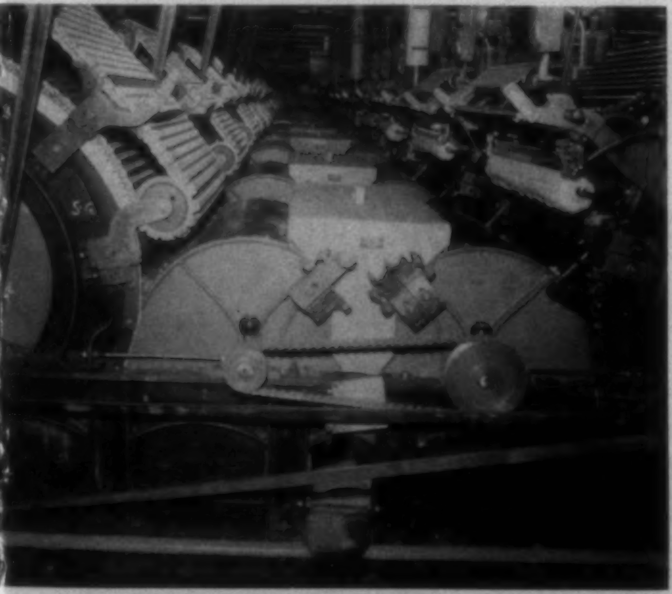


This view shows two conventional Saco-Lowell cards joined in tandem and the machine drive used at Swift.

The imperfections per 1,000 yards were as follows. With the sensitivity set on 40 for thin places, the DuoCard reading was 300 vs. the standard card reading of 498. With the sensitivity set on 3 for thick places, the DuoCard reading was 100 vs. the standard card reading of 184 and with the sensitivity set on 3 for neps the DuoCard reading was 60 and 106 on the standard card.

The skein break factor averages about 3% better on the DuoCard. Ends-down in spinning averaged 8.1 per 1,000 hours on the DuoCard and 9.0 on the standard card. Yarn produced from the DuoCard is cleaner, brighter and has up to 70% nep count reduction.

The DuoCard should not require any change in quality control techniques. The frequency of checking DuoCards might possibly be affected because production has been doubled. It might be well to investigate the feasibility of some reduction of the time interval between checks due to this increased production.



In this arrangement of Swift Spinning Mills' Duocard System, the licker-in on the second or finisher card is replaced by a doffer. In another version of the system, the licker-in is retained.

The Pushbutton C-7 Loom

By RAY SHARPE,
Crompton & Knowles Corp.,
Charlotte, N. C.

THE new C-7 automatic electric loom developed by Crompton & Knowles Corp. has no shipper handles, has a new all-electric drive, has an entirely new lay made of aluminum, has no mechanical protection parts attached to the lay, and has an entirely different type of binder and checking system.

In addition, all levers, shafts, pump rods and mechanical connecting parts for the protection motion seen on conventional looms have been taken off the loom.

The C-7 operates at from 170 p.p.m. for wide width dress goods to 190 p.p.m. for narrow widths in the terry towel industry. Maximum speed and optimum operation conditions have not yet been established.

The electrical filling stop motion works through a magnetic switch consisting of a coil and magnet which is imbedded in the center of the lay. A piece of transformer iron is imbedded in the bottom of the shuttle at the heel. This is the signalling device for the loom as the shuttle comes across. By going into the shed of the fabric, the loom is able to clock the shuttle earlier in its travel. Instead of 6 to 12 degrees as in a conventional loom, there are now 50 to 60 degrees of stopping time available.

In the electrical system, the signal is given while the shed is wide open. Stopping of the lay is initiated while it is near back-center. This slowing down of the lay in its forward movement allows the shuttle to have sufficient shed clearance. The loom is stopped without impact and with the shuttle out of the warp.

The drive for the C-7 has its main components contained in the intermediate shaft between the motor and the crankshaft. This shaft is an electric power transmitter and is mounted in a unit with the drive components attached thereto.

While it performs the functions of a countershaft, it also has certain elements located on it which allow it to store and supply the energy needed for successful loom operation.

It supplies a flywheel effect for loom operation, a forward control, an electrical brake, an electrically operated clutch and reversing gear and belt combination and single pick action.

The loom is designed to stop at a pre-determined point. When the warp ends break, it positions itself so that the weaver knows that it is an end that's broken. When the filling breaks, it stops at approximately front-center and automatically backs itself up to back-center.

The S.A.C.M. Carding Machine

By L. H. MORRISON,
Medley Mfg. Co.,
Columbus, Ga.

THE Societe Alsacienne de Construction Mecaniques, represented in the U. S. by Medley Mfg. Co., has announced several major developments in textile machinery in the past 12 months. Foremost among these was the S.A.C.M. opening and carding unit, which was made possible by metallic clothing and a new pneumatic doffing device which has replaced the conventional comb. The pneumatic device was developed by the Fietex Co. in Paris, France, after more than four years of testing and development. It has allowed S.A.C.M. to raise the speed of its unit to four times that of a standard card.

In addition to increased speeds, the carding unit produces a cleaner sliver; reduces neps as well as impurities; increases evenness; and increases the breaking strengths of yarn produced from its sliver.

S.A.C.M. then went to work on a new feeding device for the card to eliminate most of the beating action in a conventional opening line and to eliminate picker laps.

The new device, called the Flocomat, includes a small feeding apparatus for each card, which opens only a few pounds of fiber at a time and through a weight pan feeds predetermined amounts to the card. Also included in the system is a bale distributor. Each distributor includes eight of the Flocomat units feeding eight cards. It automatically gives the distribution parallelization, which is required for even blending.

Hourly production of the units feeding eight cards is between 180 pounds for Karnak cotton and 350 pounds per hour for American cotton. With the cards delivering into large cans, one operator can take care of this entire unit, and also of the eight deliveries of drawing which follow it. These figures are European job loads and ours, of necessity, are somewhat heavier than that.

Other new developments of S.A.C.M. include cotton combing which does not require a lap winder or the labor to run it, a shuttleless loom and a portable evenness tester, called the Testext Regularmeter, which we will introduce in the near future. This tester is not designed to replace existing testing equipment, but instead, will become a valuable adjunct to it. The unit is designed to check evenness on card sliver, drawing sliver, roving and spinning while the frames are still in operation. Production is never stopped so there is no downtime and the cycle of daily testing can be fitted to the requirements of your standards.

For instance, the average mill has a cycle of possibly one and one-half months in going through its cards, which means that a lot of bad sliver can be produced in the interim. With the portable tester, every card in the line can be checked every morning if the mill standards are so exacting as to require this.

The Uniconer Automatic Coning Machine

By R. H. WALLACE,
Leesona Corp.
Providence, R. I.

THE full-sized Uniconer is a two-sided unit with 12 spindles per section. Normal lengths in production will be 72, 84 or 96 spindles.

The supply creel and tension bracket are of open design to provide maximum versatility in types of bobbins and the type of inspecting or slub-catching equipment needed.

Open design of the knotter and coning area permits ease of tending. Doffing is essentially at the same level as on the No. 44 Rotoconer. It has a knotter at each spindle which is designed for simplicity, versatility and long life. The knotter requires no adjustments for count change within normal mill limits. Essentially no lubrication is required, although a light coating of the parts two or three times a year may be desirable to inhibit corrosion.

The knotter has several important advantages:

(a) It can be cycled slower without hurting machine efficiency. This aids greatly in reducing problems of wear and adjustment and permits more precise handling of the yarn in positioning, in pulling the ends tight and in cutting tails to consistent length.

(b) The individual knotters work 1/96 as often as a single knotter would in tending 96 spindles, assuming a given poundage of yarn produced.

(c) Isolation of trouble is easier with a knotter at each winding spindle because the per-spindle elements that help to guide and tension the yarn during the knotting cycle are all together. Variables from spindle to spindle are not compounded with variables in the knotting mechanism itself.

(d) Decentralization of the critical element provides insurance against a major hold-up in production.

If a knotter does develop trouble, it will be evident by an excessive number of failures to tie-in automatically. The entire unit can be replaced in about one minute without interrupting the operation of the rest of the winder.

Variations in bobbin length or break rate have very little effect on the machine efficiency. There is no waiting time after run-out or break occurs. The knotting mechanism immediately goes into action and winding is resumed in about ten seconds' time.

The following provides some idea of the approximate average net results that can be expected from Uniconer operation.

If, for example, you wish to wind 100,000 pounds per 120-hour week of 22s average count on 4-ounce bobbins, spindle requirements show 2.9 spindles produce 1,000 pounds in 120 hours. To produce 100,000 pounds, 2.9 times 100, or 290 spindles would be required. Operator's assignment on 22s 4-ounce bobbin is theoretically 89 spindles. Therefore, we can estimate that three 96-spindle machines and three operators per shift can handle the work. Admittedly the machines and operators will be well loaded, but this could be remedied by increasing the work week to 135 hours to produce an added 10% of capacity to meet peak conditions.

The Audomac Doffer

A progress report on Whitin Machine Works' production scheduling of its Audomac doffing system was given T.Q.C.A. by H. B. Patterson of Whitin's Greensboro, N. C., sales office. As reported last month ("A Progress Report on the Whitin Audomac," October '61 T. B., page 53), first installations of the system are expected some time before the end of this year. Orders for 30 units, totaling about $2 million, are on hand.

Question & Answer Session

Question: Mr. Bonge. You stated that the percent uniformity between the conventional card and the DuoCard was about the same, but that the DuoCard has about 40% fewer imperfections. Normally wouldn't you expect improvement on uniformity?

Answer: I would prefer Mr. George Blomquist from Swift Spinning Mills to answer that.

Mr. Blomquist: Yes, normally you would. All of the tests made on the DuoCard showed small increases in break and the evenness was a little better. We don't think it's enough to brag about. As far as thick and thin places were concerned, we had fewer of them in the DuoCard.

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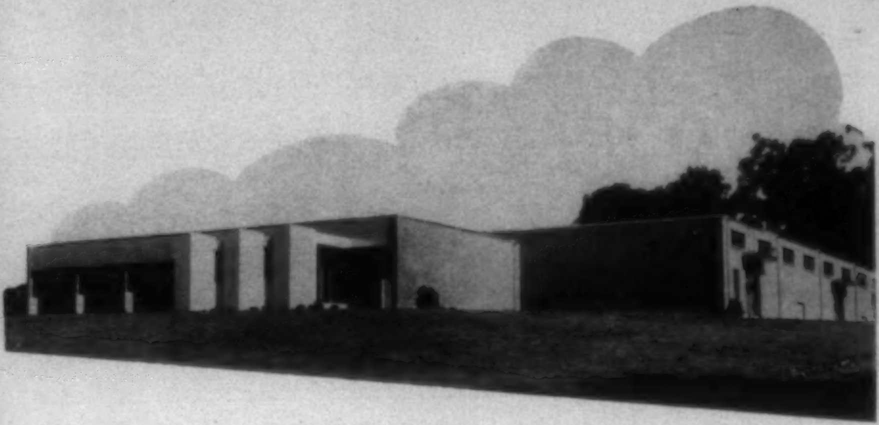

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Morrison, Patterson, Bonge, Wallace, Sharpe

Members of the machinery panel included L. H. Morrison, Medley Mfg. Co., Columbus, Ga.; H. B. Patterson, Whitin Machine Works, Greensboro; A. K. Bonge, Saco-Lowell Shops, Easley, S. C.; R. H. Wallace, Leesona Corp., Providence, R. I.; and R. A. Sharpe, Crompton & Knowles Corp., Charlotte.

Question & Answer Session

Question: I would like to ask Mr. Wallace what size package he's making on the Uniconer?

Answer: Dimensionally, there's a six-inch traverse and the same size and general contour that you get off a Rotoconer today. The diameter goes up to 14 inches. In poundage it's very hard to give a figure. We have run as high as 12 pounds of cotton. I think it's better to figure anywhere from 9 to 12 depending upon the characteristics of the yarn.

Question: I would like to ask Mr. Wallace if he's had trouble winding from bobbins with a filling build.

Answer: No, we have not. We use a tube which maintains a pretty good control over the yarn. On filling build, though, it is well to have a differential rate of rise and fall. I'm pretty sure that it's a two-to-one or better rate of drop over the rise. Bring your rail down faster than the rise and you will cut down sluffing with the filling build. Basically, I would say 80% of the yarn we are winding has the filling build. All that we're running at Willimantic is on a filling build with a three-to-one ratio.

Question: Mr. Sharpe, does the C-7 have the electric eye filling feeler?

Answer: We can apply the electric eye to this loom. We have several different types of filling feelers or filling detecting devices that can be applied to the loom. The purely mechanical; the electro-mechanical; as well as the electric.

Question: Is it for a particular type fiber or binder or something like that?

Answer: Yes. It's for use particularly in the filament field where the yarns are easily abrased.

Question: Mr. Blomquist, do you use the same settings on the DuoCard, both front and rear? And if you've tried to card Dacron, what results did you get?

Answer: We do not use the same settings on the front and rear and we don't run Dacron.

Card Screens

Question: Mr. Blomquist, could you give me a description of the card screen?

Answer: Of course this will vary with the different types of cards. Our cards are Saco-Lowell. Saco-Lowell has all the settings for the different applications of various types of equipment mills have today and will be glad to send them to you.

Question: I would like to ask Mr. Patterson from Whitin and Mr. Wallace which of their companies is handling the transition from the automatic doffer to the coner?

Answer: In other words, you are referring to taking the bobbins from the Audomac and bringing them to the winder. We are not, so far, as active in the development of transporting these bobbins and working with the Whitin people as we would like to be. We certainly consult with them to make sure our system will remain compatible to taking it as they are able to give it to us. At the moment, I would say that this is a little ahead of the game to say that there is a firm and definite transferral from the Audomac to the winding position at the coner.

Mr. Patterson: I agree with what Mr. Wallace is saying. Certainly this thing is relatively new and this is a materials handling and conveying type problem. All of these things are in various phases of engineering and application. It's a comparatively slow evolutionary type thing, but it is being given real consideration and application as far as engineering at my company is concerned.

The S.A.C.M. Card

Question: Mr. Morrison, do you know of or contemplate a demonstration installation of the S.A.C.M. opening and carding system in this country?

Answer: We anticipate showing it in this country possibly by March of next year.

Mr. Patterson: I would like to say too, if you don't mind, that Whitin is licensed to build this card in the U. S. and we have some of the cards in this country now. They will be put in various mills close by and can be seen by interested mill people.

Question: What kind of poundage do you get on this system?

Answer: We are thinking in about a four-to-one ratio. The production features of the card only represent about 10% of its potential. Tests have indicated that it would be extremely good on quality.

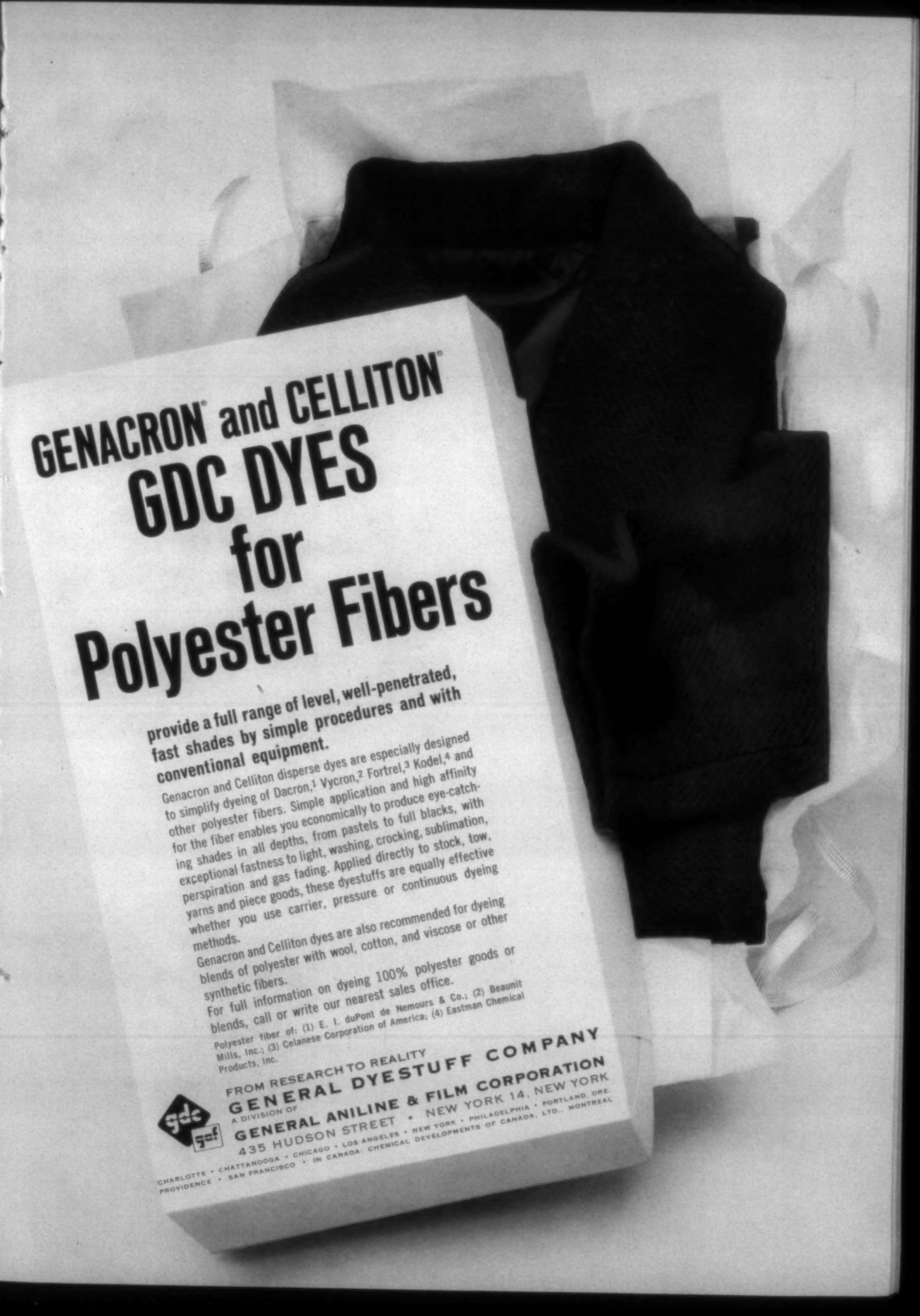
Question: Mr. Morrison, is the shuttleless loom you mentioned a sabre-type or air-jet?

Answer: It's the sabre-type.

Question: Mr. Morrison, will the pneumatic device for taking the fibers off your card be applicable to current carding?

Answer: As the gentleman from Whitin explained, they are licensees in America for the card and I would prefer that he answer that question.

Mr. Patterson: I can't answer your question because that's



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basically a management decision.

Question: What is Saco-Lowell's plan on this DuoCard? Do you plan to sell parts or what?

Answer: As we see it, the existing parts of the cards can be utilized and additional doffers and other parts will be added—as well as complete new cards—to our line. It is basically using the existing cards in place in the mills.

Question: Will Saco-Lowell convert all types of cards?

Answer: Any kind of card that's available.

Question: Can you use fillet clothing on the DuoCard?

Answer: You can do it, but it isn't practical.

Question: How frequently do you strip this card?

Answer: We don't. We've had them running now for over five months and we haven't stripped yet.

Question: You don't burnish or strip?

Answer: No sir.

Doffer Vs. Lickerin

Question: Mr. Blomquist, did your company run experiments using a lickerin instead of the auxiliary doffer and why did you decide on the doffer?

Answer: Yes, we actually tried several different types of transfer rolls and, naturally, you would want to use existing equipment. We have used the doffer and the lickerin. So far, we haven't been able to get quality down to the point with the lickerin that we can using two doffers. There's a reduction in neps for instance with the lickerin compared with conventional cards, but there's a greater reduction in the DuoCard.

Question: Do you have any idea why it's better with the doffer?

Answer: Well, we would get into a lot of theory there and we could talk about that all day long and probably still not know anything when we got through.

Question: Mr. Blomquist, how many DuoCards are being run now?

Answer: Right now we are in the process of changing over and we have at the present time 45 DuoCards, which represents 90 standard cards. We're going to change all the way to DuoCard.

Comb Is Limiting Factor

Question: You were detaching the web from the doffer originally with a comb. Are you still doing it this way? Is it satisfactory?

Answer: We have run up on a problem there. We have had this card up to as high as 52 pounds an hour and you just can't take it off the doffer with a comb. We had to use web rolls to take it off at that speed, but so far web rolls haven't proved satisfactory. We're still working on it and are running the comb box at about 2,000 r.p.m at about 32 pounds per hour. We're able to take it off at that speed with an increase in sliver weight.

Question: Do you recommend Saco-Lowell's comb box to run 2,500 r.p.m.?

Answer: No sir. I wouldn't recommend anybody's comb box to run that fast.

Question: Has there been any change on the cylinder speeds in the DuoCard?

Answer: No sir. We run them from 165 to 170 r.p.m. We've tried them at higher speeds but it didn't show much improvement.

Do You Have What It Takes To Be A Supervisor?

YOU'VE JUST BEEN PROMOTED TO SUPERVISOR. DOES THAT MEAN YOU HAVE TO GIVE UP OLD FRIENDSHIPS?

By **WILMER WESTBROOK**

PART 7

ARCHIE SIMMONS was promoted to supervisor in the department where he had worked for many years. He had always been well-liked by his fellow-workers and the promotion didn't affect his popularity. But one day he ran head-on into a situation that he should have foreseen. Jim Gill, a fixer in the department, came to work slightly less than sober.

"You're in no shape to work, Jim," Archie told him. "Go home and sleep it off! Come back in the morning!"

"You can't lay me off!" Jim retorted. "You were with me last night when I started drinking!"

"Yes, I was," Archie explained. "But I didn't get drunk—and I am in condition to work today."

After some argument Jim left the plant. He returned to work next day cold sober but he became a chronic trouble-maker. He delighted in embarrassing and heckling Archie at every opportunity until finally the supervisor was forced to discharge him.

Many of Jim's former fellow-workers now took up the feud because they believed that Archie used his authority as a supervisor to settle a personal grudge.

So Archie went to the opposite extreme—he quit fraternizing with his subordinates, on the job and off. Of course this policy only made bad matters worse. The employees considered him to be conceited, quit trying to discuss their problems with him and the department's production suffered.

Needless to say, there had to be a break, and when it came Archie lost his job. His intentions were good and he still wonders just what happened.

Can a supervisor by "one of the boys"? Or must he withdraw into a shell when he is promoted? The answer is entirely up to the individual supervisor.

There is no valid reason why you should give up your friends or your social habits to become a supervisor. On the other hand, you shouldn't begin fraternizing with your subordinates just because they are such. Many workers will try to cultivate the supervisor socially for personal gain or prestige.

There are a number of things to guard against in your off-job dealings with your subordinates:

(1) Don't place yourself under obligation by borrowing money or accepting gifts and favors;

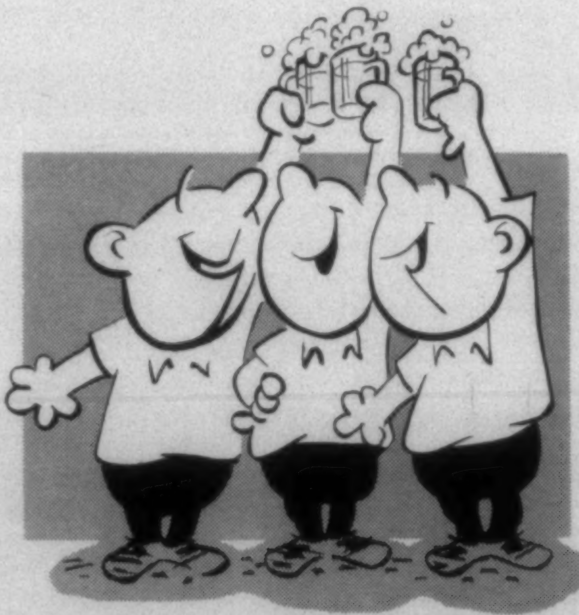
(2) Don't let your off-duty activities influence your decisions on the job;

(3) Don't show partiality when it is necessary to enforce disciplinary rules, and, if the occasion arises, patiently explain to the affected party that were the positions reversed, he would act as you do;

(4) Don't mix pleasure and business; make it clear to any subordinates with whom you fraternize that you have a job to do—just as they have—that you intend to run your job and see that they run theirs.

Some of the most successful supervisors are ones that are called by their first name by subordinates. Such a supervisor is regarded as a friend, on the job and off. He can get that "little extra" effort from all concerned on a difficult assignment that spells the difference between failure and success.

But above all, the supervisor must be consistent. You can't be "one of the boys" today and an isolated ogre tomorrow.



Can a supervisor be "one of the boys"? . . . . . .

. . . . or must he withdraw into a shell?

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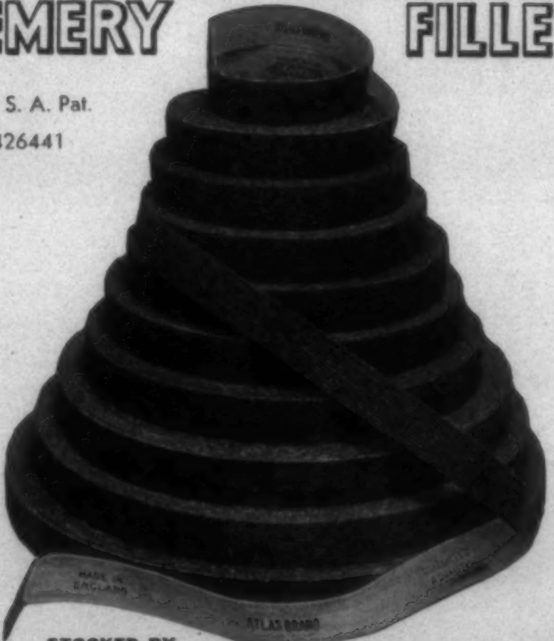

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Your dealings with others must be conducted on the same level at work or at play.

If you are the type of person that doesn't like crowds, decline party invitations. But do it in a way that will not give the impression that you are a snob. Of course, being a supervisor and therefore a part of management, you have certain social obligations. You also have civic responsibilities.

A supervisor is entitled to fun, frolic and recreation just like anyone else. In his off-hours he should be free to choose his associates. That some of these associates are also his subordinates should make no difference either way.

It will make no difference if he will use common sense and good judgment in his activities as "one of the boys."

Fiber Society Reports Largest Membership In History At Fall Meeting At West Point

The Fiber Society's Fall meeting at West Point, N. Y., Oct. 11-13, marking its 20th anniversary, heard retiring president Dr. Stanley Backer report the largest membership and strongest fiscal condition in the history of the organization of textile scientists, physicists and technologists.

In addition, the 140 members and guests attending also heard and discussed several papers related to textile technology covering diverse subjects of processing, production, physical and mechanical characteristics of fibers, yarns and fabrics.

As one of his parting official functions, Dr. Backer presented a merit scroll to Dr. Ernest R. Kaswell of the Fabric Research Laboratories Inc., Dedham, Mass. Kaswell is the new chairman of the finance and administration committee of the society, succeeding S. Jack Davis, Chemstrand Corp., Decatur, Ala.

Dr. Milton M. Platt, vice-president and associate director of Fabric Research Laboratories, won the Fiber Society's first award for "distinguished achievement in basic or applied fiber science." It was presented by Dr. John H. Dillon, newly elected president of the society and president of Textile Research Institute, Princeton, N. J.

Dr. Dillon noted Dr. Platt's "pioneering contributions to the field of fabric engineering" during his 15 years of research activity at the F.R.L.

The award recognizes and encourages early achievement in any of the fields of fiber science including development of fundamental knowledge concerning textile fibers or textile structures, the development of methods of evaluating fiber and textile properties, and the utilization or mechanical chemical processing of textile fibers into end products.

In accepting the award, Dr. Platt discussed broad areas of promising research opportunities related to surface mechanics of fibers, yarns and fabric structures.

The Society's Governing Council in session prior to the meeting heard committee reports covering administration, membership, education, finance, awards, meetings, programs and public relations.

New officers in addition to Dr. Dillon as president include: Erle V. Painter, research director, filter products division, Johnson & Johnson, Chicago, vice-president; Hugh M. Brown, research consultant, Clemson, S. C., re-elected treasurer; and Julian S. Jacobs, Athens, Ga., re-elected secretary.

Elected to the council were Dr. Bruno Roberts, Chemstrand Research Center, Durham, N. C., and Dr. Helmut R. Wakeham, Philip Morris Research Center, Richmond, Va.

Members Of Carded Yarn Association Seeking A Rollback On Imports Of Carded Single Yarn

THE Carded Yarn Association, at its 16th annual convention September 21-22 at Sea Island, Ga., called in its opening session for a 30% rollback in imports of certain types of yarn from Portugal, Spain and Egypt. Retiring President O. Leonard Moretz, president and treasurer of Carolina Mills, Maiden, N. C., in his report to the membership said the association should make a more determined effort to get a more favorable quota base for carded single yarn.

"A rollback of 30% on shipments from Hong Kong is being requested by the Tariff Commission," he said, "and similar consideration should be requested with reference to imports of carded single yarns from Portugal, Spain and Egypt." He pointed out that shipments of carded single yarns into this country increased by about 1,600% from 1959 to 1960, and that shipments during the first half of 1961 continued at virtually the same rate as during 1960.

Following Moretz's report, the association voted to create a new foreign affairs committee to work for limitations on yarn imports. The committee will be headed by the new president, W. R. Austin, vice-president of Avondale Mills, Sylacauga, Ala. Other members will include Moretz and chairmen of the association's end-use committees.

Also commenting on the import situation was guest speaker R. Dave Hall, who since the meeting has assumed the presidency of the A.C.M.I. Reviewing for the convention the industry's current position in regard to imports, Hall cited the Geneva textile agreement and the subsequent bilateral agreement with Japan as important first steps in restoring balance to U. S. foreign textile trade. Neither is wholly satisfactory, he conceded, but they do offer hope. The Geneva agreement, for example, is "the first concrete indication of a halt in the continuing free trade policy toward the nation's basic industries," he noted.

The general provision of the Japanese agreement, calling for an 8% increase in the quota total for that country, "is far greater than most of us had hoped for, but considerably less than we were afraid it might be," he said.

"This is not to say that I am satisfied with the Japanese agreement—I certainly am not, because I don't like the idea of making any share of our markets an outright gift to anybody. But I think here again there has been a great step in the right direction and a further indication that the U. S. Government is finally beginning to realize that the foreign trade policies regarding textiles are in sad need of stringent review."

He cautioned members of the association not to ease up in their efforts to make something of these initial concessions, warning that there are many steps to come before anything can come of them. Should the industry relax its vigilance even a little, the Geneva Agreement might easily become a political gimmick.

Election Of Officers

W. R. Austin, vice-president of Avondale Mills, Sylacauga, was elected president of the association succeeding O. Leonard Moretz. Austin had served as first vice-president of the association for the past year. He was succeeded in that post by B. D. Banks, vice-president of Habersham Mills, Habersham, Ga., who moved up after a year as second vice-president. J. M. Ledbetter Jr., president and treasurer of Ledbetter Mfg. Co., Rockingham, N. C., was named second vice-president and thus moved into line for the association's presidency in 1963. E. O. Fitzsimons of Charlotte was re-elected to his 26th term as executive vice-president.

New directors elected for two-year terms include J. M. Connor, Hyde Park Mills, Covington, Tenn.; Eugene Cross Jr., Cross Cotton Mills, Marion, N. C.; Robert T. Davis Jr., Swift Spinning Mills, Columbus, Ga.; J. A. Long, Roxboro Cotton Mills, Roxboro, N. C.; Manning Malloy, Cheraw Cotton Mills, Cheraw, S. C.; J. A. Moore, Sterling Cotton Mills, Franklinton, N. C.; and R. Barton Hayes, Caldwell Cotton Mill Co., Hudson, N. C. Hayes was elected to fill an unexpired term of the new second vice-president, J. M. Ledbetter, who is automatically a member of the board by virtue of his office.

The new president, W. R. Austin, is a native of Sylacauga and has spent his entire business career with Avondale Mills, with the exception of one year (1940) when he was a textile inspector for the Quartermaster Corps. He attended the public schools of Sylacauga and the University of Alabama. He joined Avondale on a full-time basis in 1941 and became head of the yarn sales department in 1945. He was elected a vice-president of the company in 1952.

Officers of the Carded Yarn Association for 1961-1962, elected at the 16th annual meeting at Sea Island, Ga., are *(seated, left to right)* President W. R. Austin, vice-president of Avondale Mills, Sylacauga, Ala.; and First Vice-President B. D. Banks, vice-president of Habersham Mills, Habersham, Ga.; *(standing, left to right)* Executive Vice-President E. O. Fitzsimons, Charlotte; retiring President O. Leonard Moretz, president and treasurer, Carolina Mills Inc., Maiden, N. C.; and Second Vice-President J. M. Ledbetter Jr., president and treasurer, Ledbetter Mfg. Co., Rockingham, N. C.

The Problem And The Solution: A Study Of Case Histories

Part One

QUALITY control technicians aren't the only ones interested in "reading" *before* and *after* results obtained from evenness tests. More and more supervisory personnel are finding it pays to be able to read and to understand the test charts which, when properly interpreted, can pinpoint problems of variation in carding through spinning.

As a guide to better chart reading the following three problems are the first in a new series beginning this month. All the problems cited are actual case histories.* Each will consist of: (1) a description of the process and pertinent operating data; (2) the *before* correction test result with comments on the defect found and its probable cause; and (3) the *after* correction test result and a description of the measures taken to correct the defect.

Problem No. 1

The Saco-Lowell lap tester charts in Fig. 1 illustrate laps made on a Saco-Lowell one-process picker. The picker has a hopper attached and is equipped with a blending reserve. The lap weighs 14.50 ounces per yard and contains 100% California cotton.

The *before* chart has a calculated coefficient of variation of 1.98%. The level of stock in the hopper fluctuated during the time the lap was being made. The result of the poor level control is easily seen by following the trend of the yard-to-yard weighings. Straight lines are drawn through a number of plotting points to show the trend of the weights.

What corrective measures were taken to produce the 0.90% C.V. lap shown in the *after* chart?

First, the chute feeding the picker from a distributor was lengthened. Next, the stock level control in the hopper was adjusted to give a more sensitive reaction to changes in level. The improvement is readily seen in the appearance of the *after* chart and from the reduction in % C.V.

Problem No. 2

The Uster Varimeter charts in Fig. 2 illustrated laps made on a Saco-Lowell one-process picker. The picker gets its stock from a controlled feed chute and is equipped with a blending reserve.

The *before* chart illustrates the problem graphically. The lap has a high maximum variation (18.4%) and contains a severe thick place at random intervals. From the evenness charts it can be seen these thick places repeat somewhere in the neighborhood of every four to six yards. The intensity

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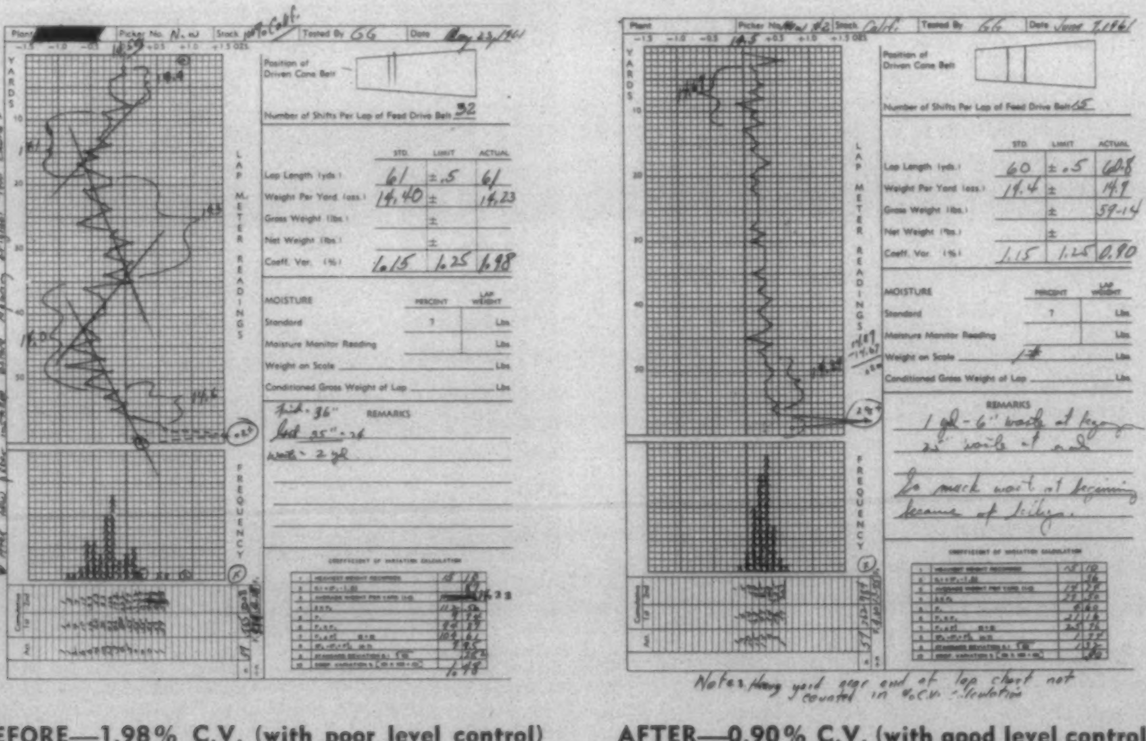
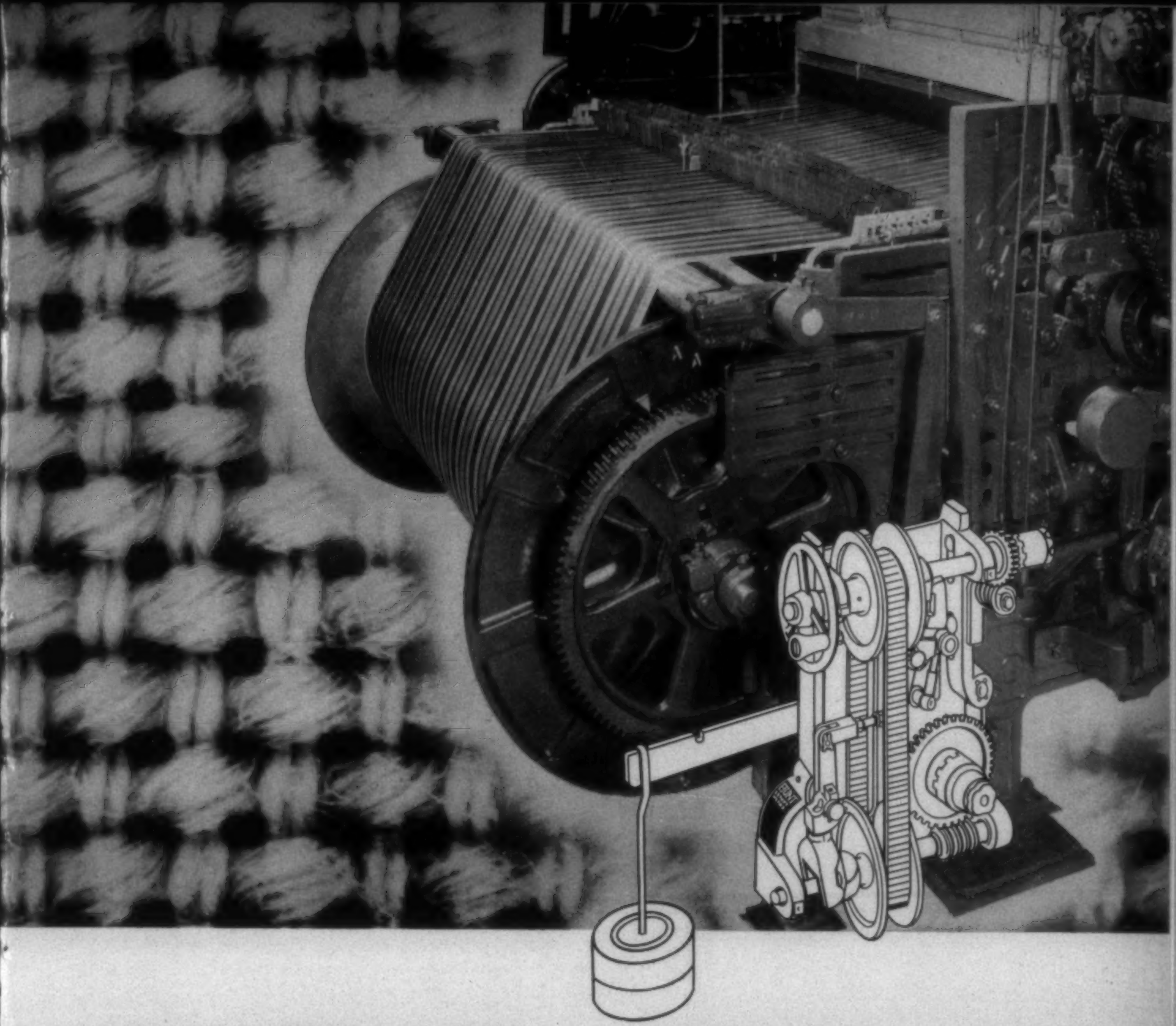
*From case histories presented at technical sessions of the Textile Quality Control Association.

Fig. 1



BEFORE—1.98% C.V. (with poor level control)

AFTER—0.90% C.V. (with good level control)



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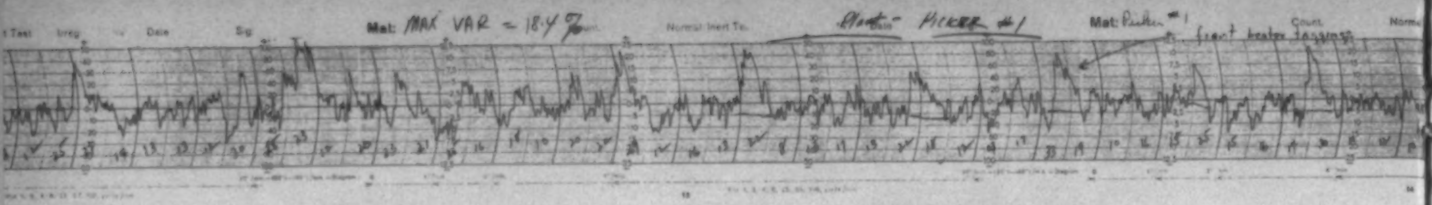


Chart No. 1 BEFORE—18.4% M.V.

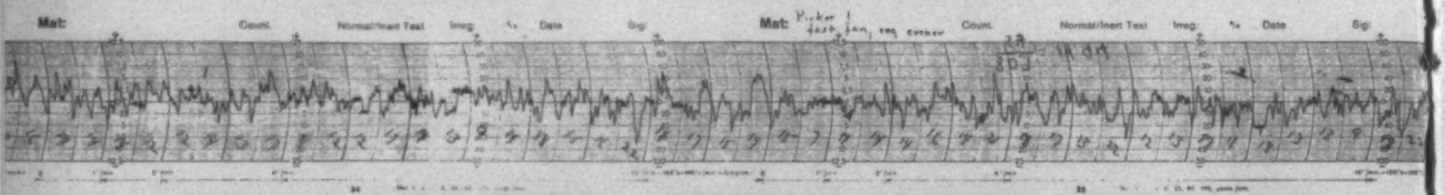


Chart No. 2 AFTER—14.9% M.V. (Variations still exist but tagging defect is eliminated)

Fig. 2

of the defect varies.

The cause of the thick places was a tag forming between the finisher beater (Kirschner) and the finisher screen in the vicinity of the cut-off plate. The tags could be clearly seen when looking into the window of the screen section.

After corrective action, the maximum variation of the lap was reduced to 14.9%.

How was the tagging condition eliminated?

Three steps were taken: (1) polishing very small nicks on the cut-off plate; (2) speeding up the finisher screen section fan; and (3) adjusting finisher screen section exhaust dampers.

Problem No. 3

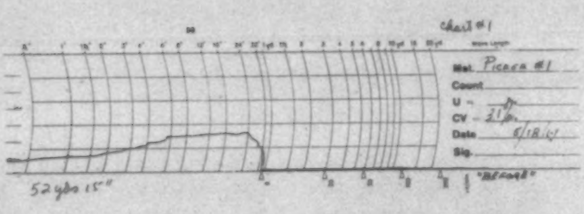
The *before* chart in Fig. 3 illustrates a considerable change in average weight from beginning-to-end of a lap. The picker was one-process and had a synchronizer. Spectrograms show no repeating defects in either *before* or *after* tests.

The % C.V. of the *before* lap is 3.1. This is a reflection of short-term variation and is not bad enough to cause trouble in later processes. The problem is the long-term change in average weight. This long-term variation does not show up in % C.V.

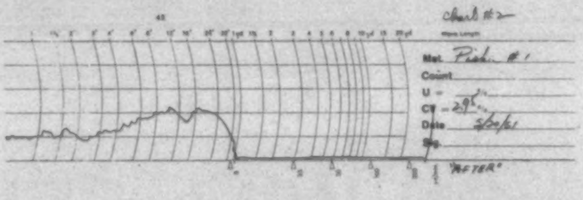
As can be seen in the *after* chart, corrective action has eliminated the problem. How was the problem overcome?

The mill replaced a one-ply synchronizer belt with a stronger, two-ply belt. The stronger belt pulls the back end of the picker more uniformly. This better drive prevents the feed section from slowing down causing the change in average weight.

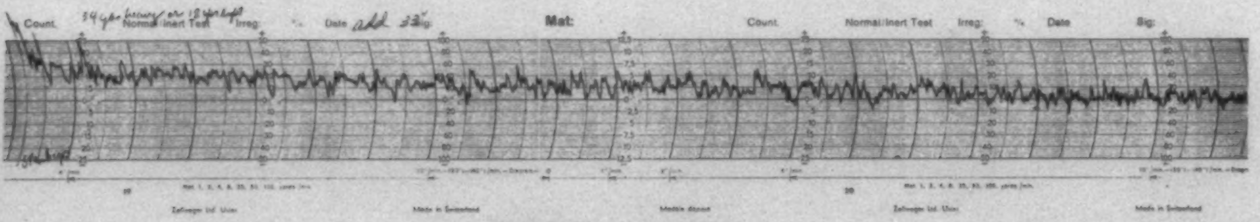
Fig. 3



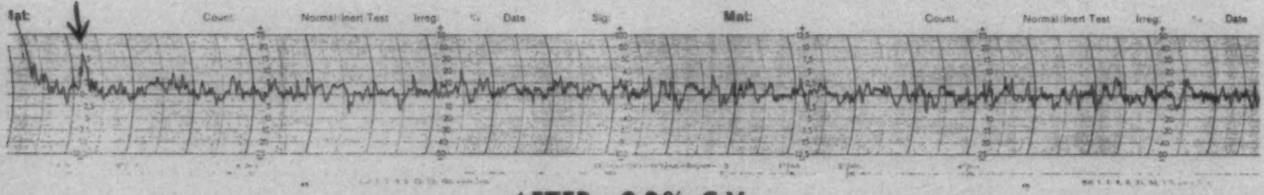
BEFORE



AFTER

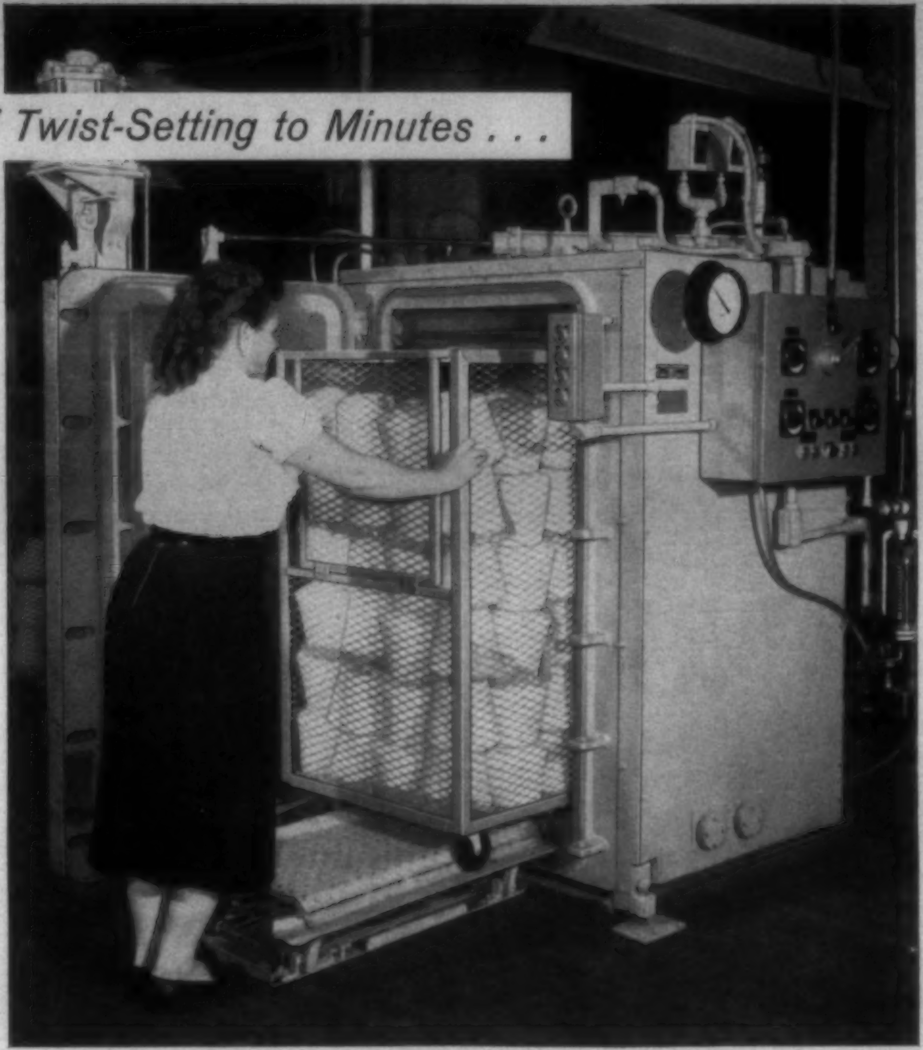


BEFORE—3.1% C.V.



AFTER—2.9% C.V.

Reduce Hours of Twist-Setting to Minutes . . .



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Hot Water Via Low Pressure Steam

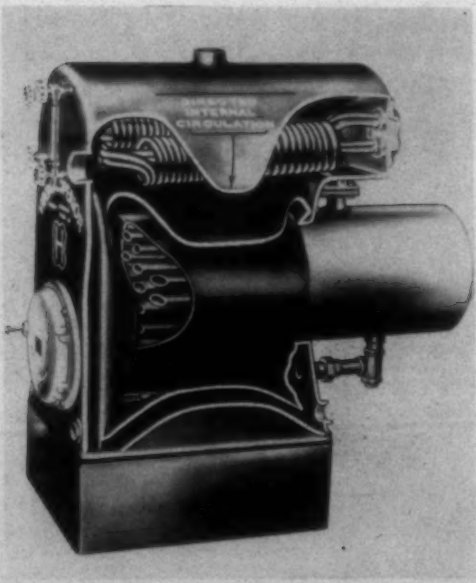
WHAT ARE SOME OF THE ADVANTAGES OF USING LOW PRESSURE STEAM FOR PROCESS HOT WATER?

By WILLIAM P. WEBER*
Viking Superior Corp.
Brooklyn, N. Y.

THE cost of producing hot water rather than the availability or cost of raw water is one of the big concerns of the textile industry.

Most large plants, and many smaller ones, generate process hot water through the medium of live steam injection. This is an effective method of gaining large quantities of hot water, where large high pressure steam boilers are used. But it is probably the most expensive way. Low pressure steam, on the other hand, being of a greater density, its content being more moisturized, can transfer more heat than high pressure steam. Except for those operations that are dependent on high pressure steam in itself, for certain processing techniques, a better job can be done, and considerable savings achieved through the use of low pressure equipment.

Low pressure equipment needs no licensed operator. Even on interim basis of operation, substantial savings are possible. It takes 970 B.T.U.'s to change a pound of water at 212° to a pound of steam at 212°. If this "live steam" is used to heat water by the method of introducing it directly into raw cold water, there is no possibility for any part of it to return to the boiler. This is called an "open end" steam supply. A boiler feed system keeps raw water continually coming into the main unit to replace what is being used in the form of steam. By contrast, if this same steam is utilized to heat water by immersing copper coils in a tank of water, and circulating the steam through those coils and back to the main unit, far less make up water is required. This is called a "closed" system. Probably, the largest maintenance costs are due to using an open end steam injection system.



This is a cut-away view of an immersion coil type water heater showing the basic principles involved. Water heated with low pressure steam does not require a licensed operator to constantly guard it.

Frequent boiler re-tubing and short equipment life are the penalties of steam injection. By using an independent water heating unit to feed a "closed" system, the maintenance cost on the main system is further reduced, as the scaling and liming will tend to be greater at the point of raw cold water feed. These separate units are designed to be serviced with a minimum of lay-down time. Boiler re-tubing is an expensive item. In some plants, re-tubing is necessary as often as every 18 months. By eliminating the method of heating water by steam injection, and putting this load on a separate indirect immersion hot water supply unit, the re-tubing period for the high pressure steam boilers can be extended three, four or five times; this saving is not merely transferred to the maintenance or re-tubing of the indirect immersion hot water supply unit. With an indirect immersion system of heating hot water, the same boiler water is maintained, thus eliminating the introduction of raw water to the boiler, which is the prime cause of boiler deterioration.

A Case History

The experience of a small New England concern might be of interest, and may be typical of what we can expect to see in the future. This company anticipated an increase in its business. It was engaged in the processing, dyeing and bleaching of nylon, cotton and viscose-rayon matting. Management decided that its present supply of high pressure steam and process hot water would be inadequate for the load demands of the several processes involved; especially if new equipment, i.e., dye vats, tumbler-dryers, etc., was added. They consulted with the local utility company engineers. It was decided that rather than purchase an additional high pressure boiler unit to supplement the existing load, a commercial water heating unit of high volume capacity would be the most economical and practical solution. This equipment was to be trimmed for steam (low pressure), installed by a local installation crew and supervised by the utility company engineers.

The equipment then in use was a 72-inch HRT boiler fired with a combination gas/oil burner of rotary type, developing 225 h.p. @ 125 p.s.i.g. Number 6 fuel oil was used in Winter, natural gas in Spring, Summer and Fall. The particular operation called for live steam to be fed to an assortment of dyeing vats and bleaching units. Live steam was also used on the many tumbler-dryers in operation and for make-up for the operations serviced by hot water. This service hot water was supplied by means of a 2,000 gallon tank heated by two steam coils. By the middle of November 1960 a commercial unit producing 5,000 g.p.h. @ 100° rise, was in operation. The water was heated through copper coils submerged in the

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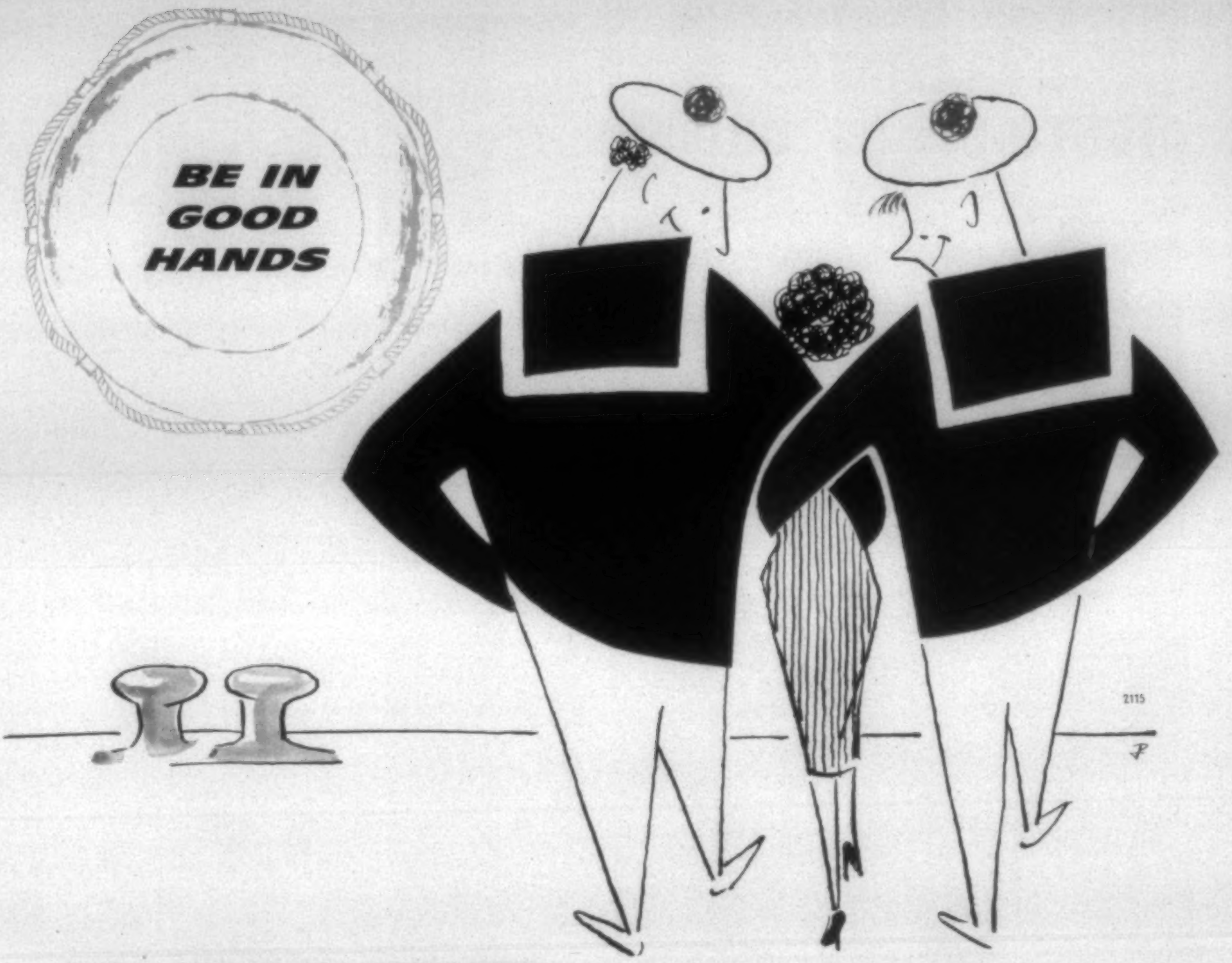
*From a paper delivered before the fifth annual Textile Processing Symposium, American Gas Association, Clemson College, Clemson, S. C., September 15, 1961.



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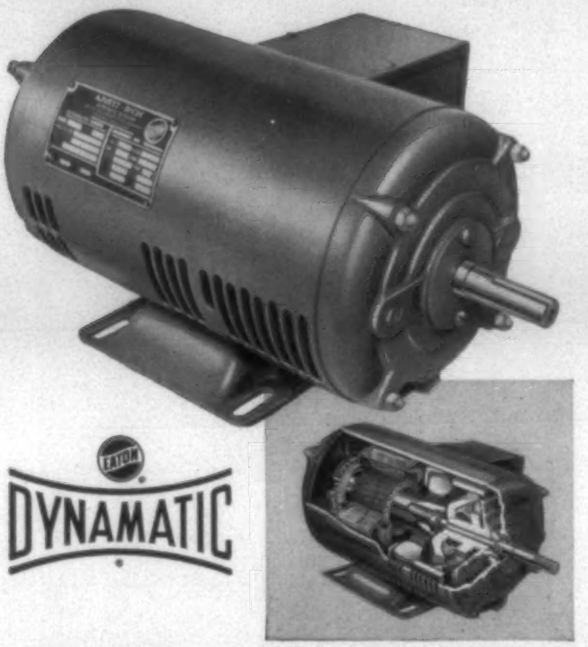

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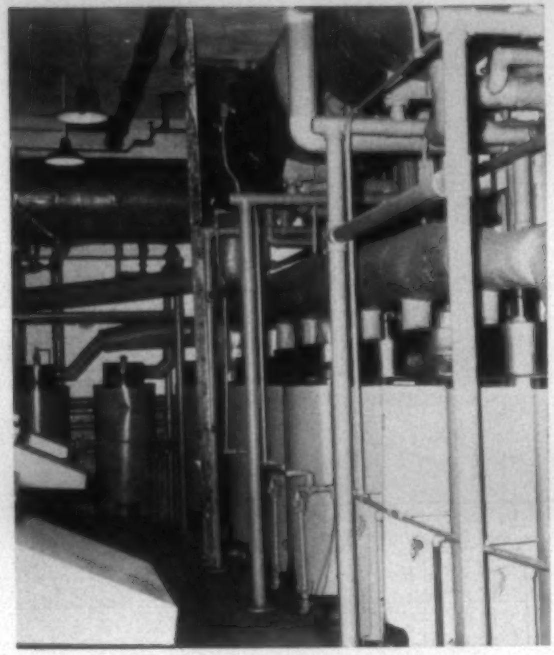


This boiler and hot water system in Pan American's LaGuardia skyport was costing the company some $3,500 every 18 months in replacement heaters, exclusive of the 16 man-hours needed for each job.

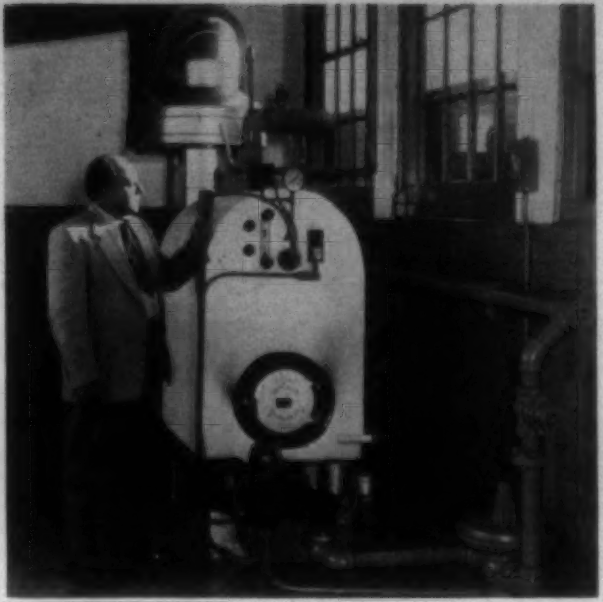
dome of the pressure vessel, which was designed to direct a flow of superheated water in constant circulation throughout the prime water areas of the heating unit.

This, at first, replaced only the two steam coils which were heating the water in the storage tank. It enabled the boiler (the main high pressure unit) to cope with the active steam loads required by the increased facilities. Then, it was proven that by feeding hot water from the new unit directly to the storage tank, a faster recovery and a hotter water was possible.

A new and unexpected use for this supplemental water heating unit came to light a couple of weeks later. It came about as a result of the suggestion of the utility company engineer. He suggested using a by-pass line from the prime water of the new low pressure unit to the heating system of the building. He thought he could take care of the heating requirements of the plant at night, over week-ends and holiday periods. It worked. The normal heating requirement of the heating system was complied with, and the management was enabled to shut down the high pressure plant system entirely.

The savings in labor costs alone more than justified the investment. The whole plant could be operated by a night watchman. Further, in this particular case, the plant was in a position to buy natural gas at a favorable rate, thus the cost of fuel entailed no penalty. But, even had they been in a less favorable position where fuel rates are concerned, the premium labor cost was saved, and more than made up the difference. From the point of efficiency, insofar as the building heating was concerned, the inherent wastes that exist in a large high pressure system, working through reducing valves and long piping runs for a relatively small heating load, were eliminated.

Since the tying in of the supplemental water heating unit with the heating system was in the nature of an experiment, time and conditions did not permit a condensate return pump to be installed so that the heating returns could be brought back to the unit. This final link is being completed this Summer, and further economies in fuel costs are inevitable.



Pan American replaced all ten heaters and three water storage tanks with one immersion coil boiler. The company's water heating costs were cut in half.

Actual difference in cost of operation is impossible to determine, as the yardsticks of operation are different. One year ago, the big HRT boiler did it all. Actually, the record for three months that the new unit was put to use does not indicate any accurate picture of economy. Both the big unit and the new supplemental unit were in operation at the same time during working hours. Conditions at any one time dictated which boiler, what percentage of capacity, what fuel, how many hours it ran, etc., were necessary. However, at this time, the plant reports satisfaction at the present operation, and is experiencing savings in fuel and labor.

This brings up a point that should well be considered. It is the loss of efficiency that takes place during the lay-down period over week-ends and holidays. In order to fire up and bring back to tolerable efficency, an oil fired unit from a cold start will require anywhere from 20 minutes to an hour or longer before the combustion chamber heats up sufficiently to permit acceptable efficiency. A use for the self-contained water heating unit, that will further contribute to economical operations is as follows: Instead of firing up from a cold start with oil, the dual fuel unit may be fired with gas to start with. This will bring combustion chamber temperatures up to peak in a matter of minutes. In the meantime, the supplemental water heating unit can be pre-heating the heavy oil through a coil heat exchanger. At the same time, it can be feeding heated water to the main boiler. What is accomplished is obvious; the unit comes up to operating temperature in a fraction of the time required by cold start oil firing; the necessity of separate oil preheaters (usually electrically heated) is eliminated; and the boiler feed water being heated will materially increase the life of the main boiler, as well as increase by approximately 15% the h.p. capacity of the unit. One boiler horsepower is equivalent to 34 pounds of steam. Thus, 100 boiler h.p. is 3,400 pounds of steam. If 212° water is supplied instead of raw cold water boiler feed, a 100 h.p. unit will develop 115 h.p., a 600 h.p. unit will develop 690 h.p., etc.

Another small plant operation in Brooklyn, N. Y., presents an interesting study. It is presently firing on dual fuel basis,

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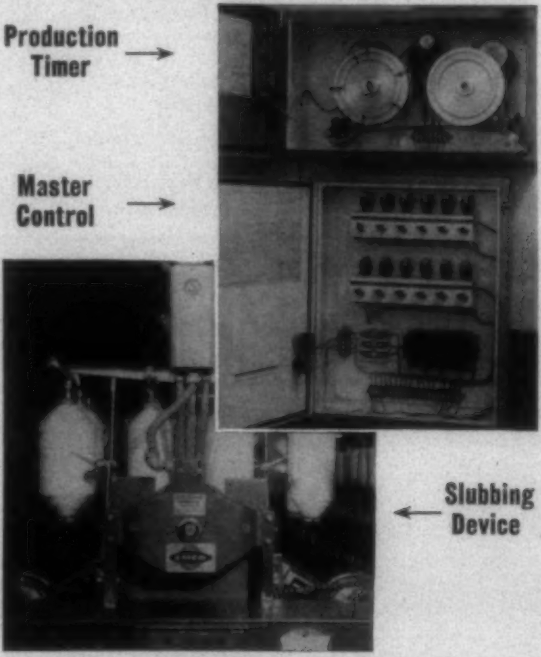

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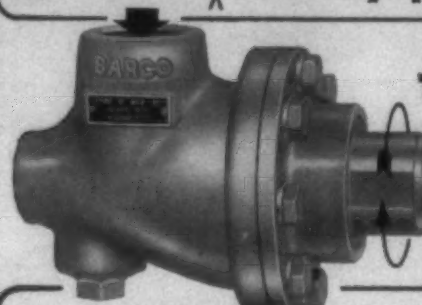

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gas being available on off-peak rate. The main boiler is capable of 625 h.p. The owner is considering the addition of some new equipment which would require about another 60 h.p. No reclaiming techniques are being used at this time. All used water is dumped. By the addition of a modern reclaiming function, 30% heat can be salvaged from the used process water. By feeding the main boiler with heated make-up water supplied by the separate water heating unit, the plant can increase the main unit's ability to handle the additional equipment, thus not requiring any additional high pressure equipment. Since the plant is not in operation on week-ends, the water heating units can take care of the heating load, and boiler room personnel are not required over the week-end.

Besides taking care of the hot water requirement for the dyeing, washing, etc., supplemental water heating equipment can be a medium for savings at the offset. It is feasible and practical to incorporate the unit's piping hook-up to provide utility hot water for washroom facilities. Since the unit is flexible enough to provide two temperatures of hot water, plus a head of low pressure steam, many combinations of fuel saving installations are possible.

Tufted Textile Fabric Value Generally Up In First Half '61 Compared With '60

The value of manufacturers' shipments of tufted rugs and carpeting during the first half of 1961 was 3% above the previous half-year's shipments, and 8% above the shipments during the first half of 1960.

Shipments of rugs and carpeting, including roll goods (rugs larger than 4x6 feet), were 4% above the last half of 1960 and 8% greater than shipments during the first half of 1960. Shipments of scatter rugs and bathmats decreased 2% from the previous half year's level but were 9% higher than shipments during the first half of 1960.

Tufted bedspread shipments in the first half of 1961 were 5% above the shipments during the comparable period of 1960.

Cotton Consumption For Apparel And Household Uses Increasing Rapidly

King Cotton is capturing an increasing share of the rapidly growing domestic apparel markets. Some 81% of cotton consumption is now in apparel and household uses, according to the National Cotton Council.

Gains in these uses have come about because of (a) benefits consumers receive from cotton's inherent qualities of appearance, comfort, launderability and fashion acceptance; and (b) improving other properties and telling consumers about these improvements.

The council pointed out that continuing studies of more than 400 major markets for fibers indicate that the greatest potential for expanding cotton consumption lies through competitive gains in existing uses. For example, in 1947 cotton held only 53% of the woven sport shirt market and 7% of the market for women's skirts. Today, the council reports, cotton holds 85% of the sports shirt market and 45% of the skirt market.

Cotton "easy-care" fabrics have increased from 600 million to 1.9 billion linear yards over a five-year period dating from the middle '50s and now accounts for 63% of the total easy-care market.

LaFar Succeeds Jonas As N.C.T.M.A. President

NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION HEARS SUPPORT PLEDGE FROM N. C. GOVERNOR SANFORD

THE textile industry in North Carolina can be assured that the people and the government of the state are fully behind the industry's efforts to achieve a business atmosphere unclouded by unrealistic policies and conditions.

A renewal of this pledge was given members of the North Carolina Textile Manufacturers Association at the group's 55th annual meeting October 5-6 at Pinehurst by North Carolina's Governor Terry Sanford, the principal guest speaker.

Progress for the textile industry means progress for the state, he pointed out, since 217,000 workers—approximately 44% of the state's manufacturing employees—derive their livelihood directly from textile employment. Solely on the strength of the industry's economic importance, it must be given every opportunity to operate in a fair, realistic business atmosphere.

Tell The Story

At the same time, the Governor cautioned, the industry should not attempt to carry all the burden of its fight toward this goal. The support of every person in the state should be solicited. "Tell your story to the people—not in terms of cost factors, import equalization fees, export subsidy rates, manufacturing waste losses, etc.—but in plain language that the average man on the street can understand.... Show..... what the $740 million that you pay in annual wage means to the Main Street merchant. Explain that textile corporations pay approximately 17% of all the corporation taxes paid in North Carolina each year, that you have more than $400 million invested in tangible property in the state, that the wages and salaries you pay contribute almost $7.5 million to the state annually in the form of income taxes."

Responsibilities Too

Governor Sanford also reminded association members that as manufacturers they have responsibilities beyond the mere operation of their individual plants. One such obligation is to the producers of North Carolina cotton.

"I understand," he said, "that it is not unusual for (you) to give preference to cotton produced in other states (because) locally produced cotton is inferior in some instances in quality to cotton produced and processed elsewhere......Obviously it is to your advantage...to secure your raw material as near to your plant as possible. Would it not then be to your ultimate advantage to take a more active interest in insuring the development of high quality cotton on the farms of North Carolina?

The Governor does not agree with those who prophesy doom for the industry's future. "On the contrary," he said, "I see a limitless future for the industry. Business is on the upswing throughout the nation and there is no reason the textile industry—with visionary, determined leadership—should not swing with it."

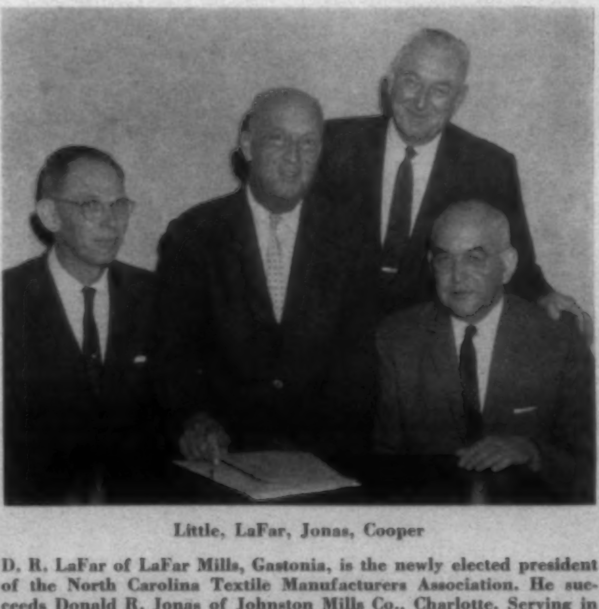
Election Of Officers

In the annual election of officers, D. R. LaFar Jr. of LaFar Mills, Gastonia, was elected president of the association succeeding Donald R. Jonas of Johnston Mills Co., Charlotte. Hal W. Little of Little Cotton Mfg. Co., Wadesboro, moved up from second to first vice-president and Marshall Y. Cooper of Harriet and Henderson Cotton Mills, Henderson, was elected the new second vice-president.

The size of the board of directors was increased from 18 to 24 and the eight new directors, whose terms will expire in 1964, include W. A. Blackwood of Washington Mills Co., Winston-Salem; N. A. Gregory of Erwin Mills, Durham; Harold Mercer of Firestone Textiles, Gastonia; P. H. Hanes Jr. of P. H. Hanes Knitting Co., Winston-Salem; Douglas Orr of Burlington Industries, Greensboro; Stanley A. Black of Aleo Mfg. Co., Rockingham; J. Harold Lineberger of Linford Mills, Belmont; and Eliott J. Nea of Aberfoyle Mfg. Co., Ranlo.

Three new directors were added to those whose terms expire in 1963, one of whom will replace Marshall Cooper. They are Albert G. Myers Jr. of Textiles-Incorporated, Gastonia; O. Leonard Moretz of Carolina Mills, Maiden; and Ivy Cowan of Stonecutter Mills, Spindale. Jack V. Schweppe of Pittsburgh Plate Glass Co., Shelby, and John K. P. O'Dell of Kerr Bleaching and Finishing Works, Concord, were added as directors whose terms expire in 1962.

The new executive committee is made up of Messrs. LaFar, Cooper and Little and also William C. Cannon of



Little, LaFar, Jonas, Cooper

D. R. LaFar of LaFar Mills, Gastonia, is the newly elected president of the North Carolina Textile Manufacturers Association. He succeeds Donald R. Jonas of Johnston Mills Co., Charlotte. Serving in the LaFar Administration the coming year will be Hal W. Little of Little Cotton Mfg. Co., Wadesboro, moved up from second to first vice-president; and Marshall Y. Cooper of Harriet-Henderson Cotton Mills, Henderson, new second vice-president.

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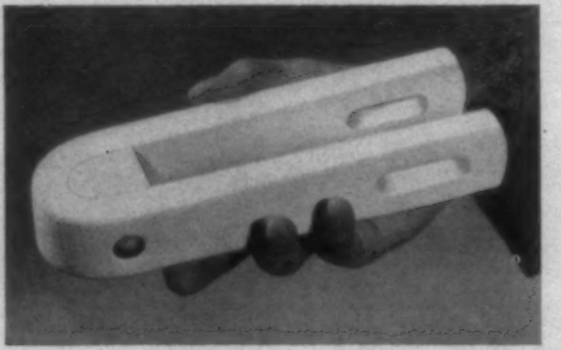

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Cannon Mills Co., Kannapolis; J. C. Cowan Jr. of Burlington Industries, Greensboro; and James Webb of Cone Mills Corp., Greensboro.

An Industry Evaluation

A second guest speaker, Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute, reviewed the industry's current position in regard to improvement of the industry-wide business conditions. He made it clear that the A.C.M.I. does not intend to sit on its hands to await breathlessly the final outcome of efforts that have been made toward braking imports or one-pricing cotton. The institute will stay in fullest pursuit of these objectives as should individual members of the industry.

President's Report

Retiring President Donald R. Jonas paid tribute to members of his administration for their service to the association during the past year, and warned against any undue optimism over the recent improved trend in textile activity.

"There is now a better feeling in the trade, shipments are considerably improved, sales are more active, and prices generally have strengthened almost enough, I might say, to take care of our increased costs in manufacturing and raw material," he reported. But he added, "should we ease up our fight against the forces which would liquidate or socialize our industry, we may soon find ourselves in a situation similar to the 'Flightless Birds of New Zealand'."

> **I am told there are no dangerous wild animals and no reptiles native to New Zealand, not a one! Apart from human occupants, anyone could wander through its primeval forests unharmed. I am told also that New Zealand is the home of more flightless birds than any other country—the kiwi, the kakapo, the penguin and the weka rail. These birds at one time could fly, but now cannot because they neglected to use their wings. Scholars say they neglected them because food was always abundant, and there was no danger near—no fearsome beasts or reptiles. The cost of their immunity was the power of their wings. They had no necessity to fly; now they have no ability to fly.**

A.C.M.I. Schedules Area Meetings

"The Big Textile Issues" is the theme of a number of area meetings now being sponsored by the American Cotton Manufacturers Institute. Foreign trade, economics, public relations, raw material and the general outlook for textiles will be subjects up for discussion at the meetings being conducted by the institute's officers and staff members. Following is the schedule of meetings:

Oct. 31—Menger Hotel, San Antonio, Tex.
Nov. 1—Dinkler Tutwiler Hotel, Birmingham, Ala.
Nov. 8—Read House Hotel, Chattanooga, Tenn.
Nov. 14—Cabana Inn, Greenville, S. C.
Nov. 14—Cleveland Hotel, Spartanburg, S. C.
Nov. 15—Oregon Hotel, Greenwood, S. C.
Nov. 20—Barringer Hotel, Charlotte, N. C.
Nov. 20—Holiday Inn Motel, Gastonia, N. C.
Nov. 21—Holiday Inn, South, Motel, Greensboro, N. C.
Nov. 29—Hotel Astor, New York City
Nov. 30—Parker House Hotel, Boston, Mass.
Jan. 10—Dinkler Plaza Hotel, Atlanta, Ga.
Jan. 11—Columbus Country Club, Columbus, Ga.

All meetings will be at noon except for those at Spartanburg and Gastonia, both of which will be at 6:30 p. m.

A. G. Myers Named President Of Combed Yarn Spinners Association

Hinds, Barnett, Myers, Martin

Officers of the Combed Yarn Spinners Association for the coming year include J. J. Hinds, Botany Cottons Inc., Gastonia, first vice-president; J. L. Barnett, Perfection Spinning Co., Belmont, N. C., chairman of the board (and immediate past president); A. G. Myers Jr., Textiles-Incorporated, Gastonia, president; and J. H. Martin Jr., Piedmont Processing Co., Belmont, second vice-president. James H. Campbell, executive secretary since last January, was re-elected to that post, which now carries the title of executive vice-president.

SOME 175 persons attended the 36th annual meeting of the Combed Yarn Spinners Association September 7-9 at The Greenbrier, White Sulphur Springs, W. Va.

Highlighting the convention was the election of A. G. Myers Jr., president of Textiles-Incorporated, Gastonia, N. C., as president of the group for the coming year. Myers, moving up from first vice-president, succeeds J. L. Barnett of Perfection Spinning Co., Belmont, N. C.

Other officers include J. J. Hinds of Botany Cottons Inc., Gastonia, first vice-president; J. H. Martin Jr. of Piedmont Processing Co., Belmont, second vice-president; and M. T. Cameron of A. M. Smyre Mfg. Co., Gastonia, re-elected treasurer.

Named to the board of directors for three-year terms were R. C. Thatcher Jr., Standard-Coosa-Thatcher Co., Chattanooga; M. Fred Thoma, Fitchburg Yarn Co., Fitchburg, Mass.; Ben E. Jordan Jr., Royal Cotton Mills Co., Saxapahaw, N. C.; and H. F. Hunsucker Jr., Highland Cotton Mills, High Point, N. C. Filling out the board was the election of

(Continued on next page)

The Importance Of Ban-Lon To Woonsocket

BAN-LON BANDWAGONERS PROMOTE TEXTRALIZED YARNS IN "BAN-LON WEEK" IN WOONSOCKET SEPT. 25 TO 30

THE importance of textralized yarn to Woonsocket, R. I., was promoted with a unique city-wide "Ban-Lon Week" September 25-30. Jointly sponsored by The French Worsted Co. and Masurel Mills, both of Woonsocket, the project pointed out that nearly $3 million in payrolls and some 800 jobs are attributed to the manufacture of textralized yarn in the city. Masurel and French Worsted are both licensees of Joseph Bancroft & Sons' processes.

The promotion originated with Jacques Staelen, general manager and treasurer of Masurel Mills, who was joined by Emile Benoit, president of French Worsted, in planning the project. Co-operating agencies included city officials, news media, the Chamber of Commerce and the Retail Trade Board, as well as 18 retail merchants and a number of the textile supply firms who serve the two sponsoring mills.

Promotion of the event began ten days before the week officially got under way. Radio plugs, newspaper tie-ins, mobile radio broadcasts, a fashion show of Ban-Lon garments and a jingle contest were features of the promotion.

Not incidentally, retail Ban-Lon inventories during the period dropped appreciably.

Jacques Staelen, general manager and treasurer of Masurel Mills, and Emile Benoit, president of The French Worsted Co., played leading roles in promoting "Ban-Lon Week" in Woonsocket September 25-30.

Alan T. Dickson of American & Efird Mills, Mt. Holly, N. C., to succeed T. C. Smotherman, recently resigned from American Efird and now with Kimberly Yarn Mills, Mt. Holly.

Co-Operative Plan

The association adopted a proposal for a co-operative plan with the Carded Yarn Association that would provide for one director and one office for the two associations. The office would be located in Gastonia, site now of the Combed Yarn headquarters. Details of the arrangement are to be worked out by executive committees of the two associations. It was emphasized the plan would not be a merger of the associations, but merely a co-operative plan whereby the associations would share an executive director and office space.

McCabe Hits Imports

The featured guest speaker for the convention was Robert D. McCabe, managing director of The Underwear Institute, New York City. McCabe reminded the group that half of its production goes into knitting yarns, and pointed out that while total production of combed cotton yarn took a 6% drop during the first half of 1960, production of knitting yarn increased 2%. Shipments of knit cotton, underwear, nightwear and knit shirts dropped 5% during the first quarter of the year, he noted, but second quarter shipments were 19% over the first quarter, and figures for the third quarter are expected to show a continued and marked improvement.

Commenting on imports from Japan and Hong Kong, McCabe said, "The average value per dozen of imports of cotton knit underwear, nightwear and knit shirts from Japan in 1959 was $2.84; in 1960 it was $2.67; and for the first half of 1961, it was $2.34. The comparable figures from Hong Kong in 1959 were $1.69, in 1960 they were $2.25, and for the first half of 1961 they were $2.72.

"Compare these," he said, "with our average manufacturers' value per dozen of $6.64 in 1959, $6.69 in 1960, and $6.19 for the first half of 1961.

"Of course if it were legally and morally permissible to work our people 204.3 hours a month at 19½ cents per hour as was the case in the Japanese textile mill products industry in 1960, or 201.1 hours a month at 16 cents an hour as was the case in the Japanese apparel industry in 1960, the import problem would be solved."

New U.S.D.A. Cotton Formaldehyde Finish For Improved Wash-Wear Being Evaluated

A new chemical finishing process, devised by U. S. Department of Agriculture scientists to give cotton improved wash-wear characteristics, is currently under evaluation. Plant-scale experiments by four firms indicate commercial application of the treatment is feasible. One firm is also marketing limited quantities of the treated fabric to determine consumer acceptability.

The new process, which uses formaldehyde to bind together cotton's cellulose molecules, is a development of the Southern Utilization Research and Development Division, Agricultural Research Service, in New Orleans. Chemists responsible for the formaldehyde treatment are Leon H. Chance, Rita M. Perkins and Wilson A. Reeves.

The new finish appears to be more durable than many other types of wash-wear finishes now in use. Also, formaldehyde-treated fabrics show no tendency toward yellowing or other

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discoloration when subjected to chloride bleach. Changes in the feel of the fabric are slight. Fabrics given the finish in pilot-plant tests rated high (4-plus or 5) on the standard wash-wear rating scale of 1 through 5. Garments made from the treated fabric can be either line or machine-dried.

Although the chemical cost is about the same, the formaldehyde treatment takes longer and requires more equipment than most of the wash-wear treatments now in use. Consequently, overall costs of the new finishing process are higher than those of most other processes, which range from 5 to 10 cents per square yard. Most cotton textile finishing plants already have the equipment needed for the formaldehyde process, but some modification in present operations will be required.

A distinguishing feature of the new treatment is the fact that the fabric must remain wet with the solution for about 30 minutes. To apply the finish, fabric is placed in a water solution of formaldehyde, hydrochloric acid, and either acetic acid or calcium chloride at room temperature.

The water causes the cotton fibers to swell, and the acetic acid or calcium chloride controls the degree of swelling. The formaldehyde then enters the slightly swollen fibers and, catalyzed by the hydrochloric acid, reacts with the cellulose to bind the molecules firmly together. This cellulose binding gives the fabric a strong tendency to dry flat, thus imparting wash-wear characteristics.

Tenth Chemical Finishing Conference To Be Held In Washington, Nov. 8-9

The Tenth Chemical Finishing Conference, sponsored by The National Cotton Council of America, is to be held at the Sheraton-Park Hotel, Washington, D. C., November 8 and 9.

Chairman for the morning of the eighth is Giuliana C. Tesoro, J. P. Stevens & Co. Papers to be given include "Wet-Only Wrinkle Recovery by High Temperature Cure," Emery I. Valko, Lowell Tech; "Effect of Humidity on Crease Recovery of Modified Cottons," R. A. Gill, Rohm & Haas Co.; and "Chemical Bonding of Wrinkle Resistant Finishes in Cotton," S. James O'Brien, American Cyanamid Co.

The afternoon chairman of the same day will be Henry Tovey of the Cotton Council. Topics for the program include "All-Cotton Stretch and Bulked Yarns and Fabrics," C. H. Fisher, S.R.R.L.; "Fabric Construction for Wash-and-Wear Cottons," J. F. Krasny, Harris Research Laboratories; and "Effects of Tension in Wash-Wear Finishing of Cotton," S. P. Hersh, Union Carbide Chemicals Co.

Allan J. McQuade from the Quartermaster Research and Engineering Command will be chairman of the Thursday morning session. Subjects are "Acid Hydrolysis of N-Methylol Finishes," by W. A. Reeves, S.R.R.L.; "Prevention of Bleach-Induced Yellowing of APO-Finished Cotton," R. B. LeBlanc, The Dow Chemical Co.; and "Oil and Water Repellent Flurochemical Finishes for Cotton," by W. H. Petersen, Minnesota Mining & Mfg. Co.

South Central Section Of A.A.T.C.C. Elects New Officers At Fall Meeing

Lowell Shive of Arnold, Hoffman & Co., Chattanooga, was elected chairman of the South Central Section of the American Association of Textile Chemists & Colorists at the group's Fall meeting in Chattanooga. He succeeds R. J. Tyrrell of Peerless Textiles, Cleveland, Tenn., a division of

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Burlington Industries. Other new officers include Jack Welborn, Reigel Textile Corp., Trion, Ga., vice-president; Arthur Williams of the Du Pont Co., Chattanooga, secretary; and Robert Ingram, Lebanon Mills, Lebanon, Tenn., treasurer. New councilors include E. V. Helms, Geigy Dyestuffs, Chattanooga, and Charles Braswell, Seydel-Woolley & Co., Chattanooga.

2nd Quarter Broad Woven Cottons Up 3% From 1st Quarter, Down 5% From 1960

The Bureau of the Census reports that cotton broad woven fabric production in the 2nd quarter of 1961 was approximately 3% above the previous quarter and 5% below the second quarter in 1960 at 2,312,837 thousand linear yards.

Production of colored yarn fabrics was 13% above the previous quarter's level at 604,058 thousand yards. The output of napped fabrics was 8% above the previous quarter's level and the production of fine cotton fabrics increased slightly to 427,183 thousand linear yards.

Duck and towel, toweling and dishcloth production increased 2%; napped fabrics declined 16%; and all other fabric classes declined 1 to 9%.

Cotton fabric production in the Southern states amounted to 2,141 million linear yards, 3% above the first quarter output. New England production was down 3% from the previous quarter.

Summary Of Production By Class Of Fabric
(Thousands of linear yards)

Type of goods	April-June 1961 (Preliminary	Jan.-March 1961	April-June 1960
COTTON BROAD WOVEN GOODS, TOTAL	2,312,837	2,253,117	*2,423,085
Duck and allied fabrics	53,761	50,989	52,604
Sheeting and allied coarse and medium yarn fabrics	604,058	571,355	*662,796
Print cloth yarn fabrics	808,696	*816,291	843,043
Colored yarn fabrics	111,290	98,342	117,090
Towels, toweling and dishcloths	142,518	136,132	139,504
Napped fabrics, blankets and blanketing	48,365	44,754	57,509
Fine cotton fabrics	427,183	*425,260	*431,123
Other woven cotton fabrics and specialties	116,966	*109,994	*119,416

*Revised.

Woolen And Worsted Fiber Consumption In August Shows A 22% Rise From July

The weekly average rate of fiber consumption on the woolen and worsted systems in August was 22% above the July rate and approximately equal to August 1960. These figures exclude the production of man-made fiber top from tow without combing.

The weekly average raw wool consumption in August was 8,894 thousand pounds (scoured basis) or 25% above the July level and 2% above the comparable month in 1960.

Consumption of apparel class wool was 17% above the July level and 10% above the same month in 1960.

The rate of consumption of carpet class wool increased by 41% from the preceding month but was 9% below August 1960.

Consumption of fibers other than raw wool averaged 5,399

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thousand pounds per week. This was 16% above the rate of consumption during the previous month and 2% below the August 1960 rate.

Fibers Consumed In Woolen Spinning And Worsted Combing, August 1961

(Thousands of pounds—scoured basis for greasy wools)

Classification	Aug. 1961 Weekly Average	July 1961 Weekly Average	Aug. 1960 Weekly Average
ALL FIBERS, TOTAL	14,293	*11,741	14,225
Raw wool	8,894	*7,100	8,737
Apparel class	5,607	*4,776	5,111
Woolen system	2,369	*2,096	2,259
Worsted system	3,238	2,680	2,852
Carpet class	3,287	2,324	3,626
Noils, reprocessed and reused wool and other animal fibers	3,153	2,685	3,087
Man-made fibers	1,929	1,739	2,107
All other fibers	317	217	294

*Revised

Dave Hall Takes Over Officially As A.C.M.I. Installs 1961-62 Officers

R. Dave Hall, chairman of the board of Climax Spinning Co., Belmont, N. C., has officially taken over as president of the American Cotton Manufacturers Institute, succeeding J. M. Cheatham of Griffin, Ga., president of Dundee Mills.

Hall was elected president of the institute at its annual meeting last March in Miami Beach, Fla. A.C.M.I. tenures extend from October 1 through September 30 to avoid administrative changes while Congress is in session.

The new president has been active in the industry since 1919, and has previously served the A.C.M.I. as a member of its board and as second and then first vice-president. He is also a past president of the North Carolina Textile Manufacturers Association, and has served two terms as president of the Combed Yarn Spinners Association.

Hall

Ruffin

Stevens

In addition to being chairman of the board of Climax Spinning Co., he is also secretary-treasurer of Majestic Mfg. Co., secretary-treasurer of Sterling Spinning Co., secretary-treasurer of Stowe Thread Co., president of Belmont Hosiery Mills, president of Belmont Knitting Co., a director and member of the executive committees of American & Efird Mills of Mount Holly, N. C., and of the Bank of Belmont. He also holds directorships in Belmont Converting Co., R. S. Dickson & Co. and the Security Fire & Indemnity Co.

Assuming office with him are W. H. Ruffin, president of Erwin Mills, Durham, N. C., who moved up from second to first vice-president; and Robert T. Stevens, president of J. P. Stevens & Co., newly elected second vice-president.

New members of the board beginning three-year terms include: Ceasar Cone, Cone Mills Corp., Greensboro, N. C.;

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William J. Erwin, Dan River Mills, Danville, Va.; Edward Goldberger, M. Lowenstein & Sons, New York City; Merwin R. Haskel, United Merchants & Manufacturers, New York City; Louis L. Jones Jr., Canton Cotton Mills, Canton, Ga.; J. Harold Lineberger, Acme Spinning Co., Belmont, N. C.; J. E. Robison, Indian Head Mills, New York City; Robert M. Schwarzenbach, The Schwarzenbach Huber Co., New York City.

Board vacancies created since the election of officers last March bring three additional new members to the board. Richard R. Higgins, president of The Kendall Co., has been named to a two-year term to succeed Jackson E. Spears, formerly of Burlington Industries, and now a consultant with the U. S. Department of Commerce. J. Spencer Love, president of Burlington Industries, has been named to a three-year term to succeed the late J. S. Abney, president of Abney Mills, Greenwood, S. C. Fred M. Lyon, president and treasurer of Micolas Cotton Mills and Opp Cotton Mills, Opp, Ala., succeeds Brackett Parsons, retiring president of Pepperell Mfg. Co., Boston, to a term ending in 1962.

The new executive committee is composed of Messrs. Hall, Ruffin, Stevens, Cheatham and the following: Julian T. Hightower, Thomaston Mills, Thomaston, Ga.; Don S. Holt, Cannon Mills Co., Kannapolis, N. C.; Edmon G. Luke, Amerotron Co., New York City; James P. Marion Jr., Bloomsburg Mills, New York City; Roger Milliken, Deering-Milliken Inc., Spartanburg, S. C.; R. S. Small, Woodside Mills, Greenville, S. C.; J. Craig Smith, Avondale Mills, Sylacauga, Ala., and Seabury Stanton, Berkshire Hathaway, New Bedford, Mass.

10th Annual Material Handling Short Course To Be Held At Georgia Tech

The 10th annual Material Handling Short Course, sponsored by the School of Industrial Engineering, Georgia Tech, will be held February 1-3, 1962.

The course is designed for engineers who are working with material handling problems and is also designed to show registrants new techniques and processes in material handling. It will emphasize the use of industrial engineering techniques in solving these problems.

Registration fee has been set at $60 and includes tuition, necessary supplies and the evening meal on February 1.

The course supervisor is Dr. Paul T. Eaton of Georgia Tech's School of Industrial Engineering. His staff includes senior members of the school as well as representatives from industry who have attained national recognition in the field of material handling.

Following is a schedule of the classes to be held.

FEBRUARY 1, THURSDAY

The Basic Functions of Material Handling

New Functions of Packaging, Packing and Material Handling, J. W. Hall, Westinghouse Electric Corp., meter division, Newark, N. J.

An Integrated Material Handling System, and How It Can Reduce Material Handling Costs, Dr. Paul T. Eaton, School of Industrial Engineering.

Applied Statistics for Use in Material Handling Operation, Dr. Harrison M. Wadsworth, School of Industrial Engineering.

Application of Standard Data and Cost Estimates to a Material Handling Problem. Assignment of a Problem, Dr. Eaton and Dr. Wadsworth.

Group discussion of assigned problem, Graduate Room of Industrial Engineering Building, A. French Building.

February 2, Friday

The Engineering of Material Handling Problems

Engineering and Designing Safety Into Material Handling Equipment—and the reduction of maintenance costs, George A. Smith, Yale & Town Mfg. Co., Philadelphia.

Aisle Width, Pallet Size and Unit Loads—the most important ratio of relation in Material Handling, E. P. Patrick, Applicant Specialist, Otis Elevator, Baker Industrial Trucks, Cleveland, Ohio.

Is the Operation of an Automatic Warehouse Economical? A. J. Nagi, V. P. Admos Inc., Detroit, Mich.

Solution and discussion of assigned and other problems. Panel: Hall, Smith, Patrick, Prof. Eaton, Prof. Johnson and Prof. Wadsworth.

Monthly meeting of the Atlanta Chapter, American Material Handling Society; Address by George A. Smith; details will be announced at the short course.

February 3, Saturday

Future Developments in Material Handling

How can the newly developed industrial engineering techniques help analyzing Material Handling Problems? Prof. Lynwood A. Johnson, School of Industrial Engineering.

Piggybacking leased, rented or owned equipment: A new cost saving program, A. Smoot Langston, president, Southeastern Leasing Co., Atlanta, Ga.

Du Pont Develops Spunbonded Fabrics To Be Used As Interlinings, Coatings

The development of a series of experimental products to be known as spunbonded materials has been announced by the Du Pont Co., Wilmington, Del. Patent applications have been filed covering the process and the products obtained.

The new structures are not woven and are produced through integration with synthetic fiber manufacturing. They can be made from a number of fiber-forming polymeric materials.

Certain types of the new spunbonded materials appear similar to conventional nonwoven fabrics. Some of them will be used initially as interlinings, while others will be used as base materials for coatings and impregnations.

A program of trade development and market testing is under way to assess further the potential for these spunbonded materials. And based on the results of this development, the company will make a decision regarding commercialization which may be more than two years away for some of these products, Du Pont reports.

Laboratory quantities of materials have been prepared at the Pioneering Research Laboratory at the company's Experimental Station near Wilmington and at its research laboratory at Richmond, Va. Small experimental units are scheduled for operation later this year at Old Hickory, Tenn., and at Richmond.

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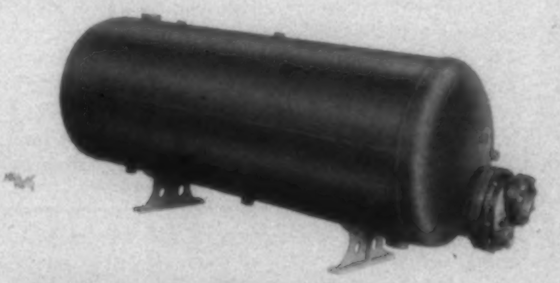

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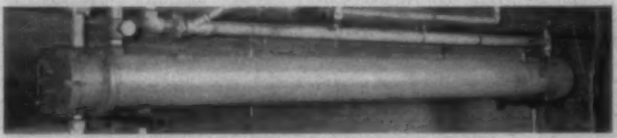

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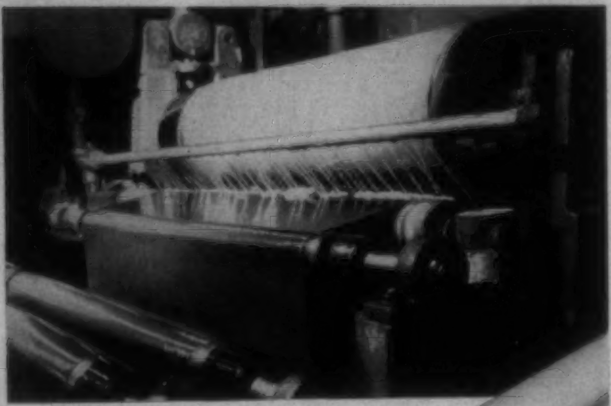

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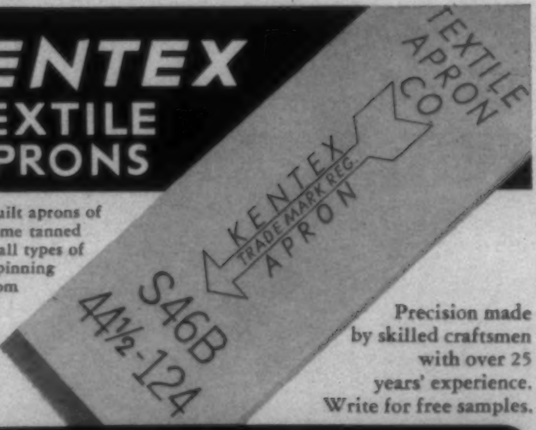

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advanced training in manufacturing and management aspects of the textile industry. It consists of more than 70 hours of classroom and laboratory instruction by the Clemson textile faculty and six industrial tours of cotton, synthetic and woolen mills, finishing plants and cotton warehousing firms.

Members of the class, who originally joined the I.B.M. sales force with at least a bachelor's degree and who have an average of five years experience with the company, were selected for the course from I.B.M. offices in Atlanta, Charlotte, Columbia, Chattanooga, Greensboro, Greenville, New York and Montreal, Canada.

The Clemson course is the first textile school to be held under I.B.M.'s advanced sales program. Similar schools have been conducted for salesmen who specialize in banking, insurance, retailing, manufacturing, transportation and local government. The course will cover the full range of textile manufacturing from the selection of raw materials through all stages of production to finished goods.

Man-Made Fiber Broad Woven Fabrics Show Slight Increase In 2nd Quarter

Production of broad woven goods of man-made fibers was 584 million linear yards during the second quarter of 1961. This was 1% above the first quarter 1961 output and 6% below the second quarter 1960 production. Rayon and acetate fabric production was 4% above the output during the previous quarter, and 3% less than the output during the comparable period of 1960.

Production of man-made fiber fabrics in the South increased by 3% compared with the previous quarter while output in New England plants decreased 3% and output in the Middle Atlantic States decreased 10%. Data showing production by geographic division is given in the table below, compiled by the Bureau of the Census.

Summary Of Production By Class Of Fabric
(Thousands of linear yards)

Type of fabric	April-June 1961	Jan.-March 1961	April-June 1960
MAN-MADE FIBER FABRICS, TOTAL	583,775	*577,442	618,194
RAYON AND ACETATE BROAD WOVEN FABRICS, TOTAL	356,604	*341,599	368,106
Blanketing	11,902	11,542	13,636
100% filament rayon and/or acetate fabrics	175,473	*166,493	166,959
100% spun rayon and/or acetate fabrics	59,491	48,690	56,358
Combination filament and spun rayon and/or acetate fabrics	19,131	*19,599	26,888
Pile, upholstery, drapery, tapestry and tie fabrics	39,610	*40,366	45,823
All other rayon and/or acetate mixtures	50,997	*54,909	58,442
Man-made fiber fabrics, except rayon and acetate	218,385	*226,304	239,648
Silk and other broad woven fabrics, not elsewhere classified	8,786	9,539	10,440

*Revised.

Cotton Production Up, Indicated Yield Down As Of October 1, Compared With '60

The Crop Reporting Board of the Statistical Reporting Service, U.S.D.A., has given a cotton production report as of October 1 of 14,334,000 bales, up 72,000 bales from last month and compared with 14,272,000 bales and 13,553,000 bales for 1960 and the 1950-59 average, respectively.

Indicated yield per acre is estimated at 440 pounds, up three pounds from 1960 and down some 26 pounds from the all-time high of 466 pounds per acre in 1958. The indicated yield is higher than last year in the far Western states but below last season in most other states.

For the U. S., the percent ginned to October 1 is estimated at 18.8%, the smallest on record. This compares with 25.8% in 1960 and the 1950-59 average of 33%. The Bureau of the Census reports that 2,683,436 bales were ginned to October 1, compared with 3,677,243 bales in 1960.

State	Acres for Harvest 1961*	Production 500-lb. Gross Weight Bales		
		1950-59 Average	1960	1961 Indic.*
	1,000 Acres	1,000 Bales		
North Carolina	405	362	232	285
South Carolina	600	527	414	415
Georgia	660	607	505	500
Tennessee	520	550	583	590
Alabama	900	755	756	685
Mississippi	1,600	1,579	1,542	1,650
Missouri	390	368	472	395
Arkansas	1,355	1,314	1,339	1,360
Louisiana	540	562	501	525
Oklahoma	685	338	458	420
Texas	6,550	3,910	4,346	4,550
New Mexico	194	286	291	310
Arizona	393	798	849	810
California	810	1,554	1,939	1,800
Other States	50	45	45	39
United States	15,652	13,553	14,272	14,334

*August 1 estimate.

How Safe Is Your Cooker Room? Here's A List Of Hazards To Avoid

IN the interest of added safety in size cooking areas, the National Starch and Chemical Corp. has prepared the following check list of hazards to avoid in making it an accident-free operation.

Does your starch bulk-storage system have proper safeguards to eliminate explosion (caused by dust in silo and conveyor), such as use of explosion-proof motors? Have you met the insurance requirements?

If starch cooking kettles are on raised platforms, have strong handrails been installed?

Are there sturdy rails on steps leading to raised working areas?

Are the steps too narrow or steep for safety?

Are make-shift, portable steps used from one kettle to another which can cause falls and accidents?

Is there adequate headroom?

Does the size kettle have automatic cooking controls to avoid boil-over of size? Are they in good operating condition?

Is the manual shut-off valve too close to the kettle, so there is danger of burns from boil-over when shutting off the valve in an emergency?

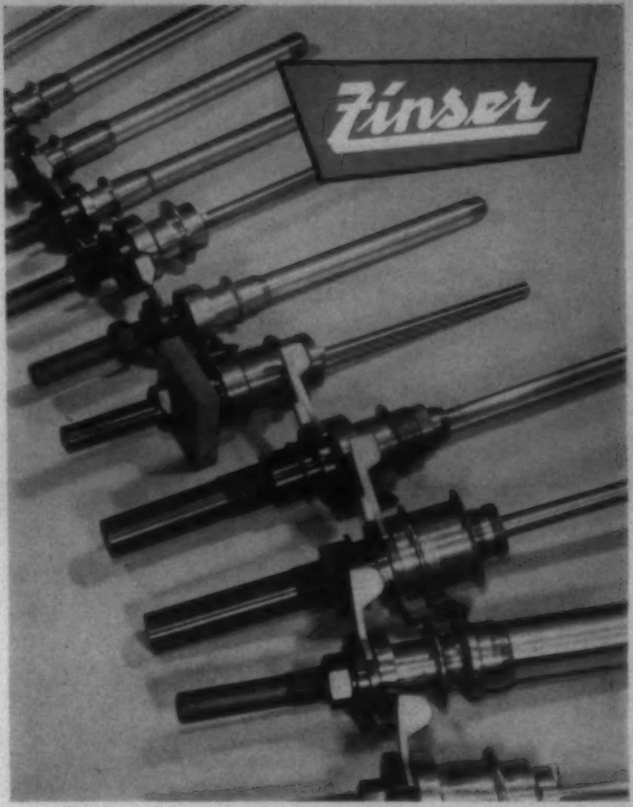
Are the cooking kettles insulated?

Does the cooking kettle have an adequate rear exhaust pipe in case of sudden boil-over?

Does the kettle cover have a simple and adequate latch along with a suitable long lever arm to raise the cover for inspection?

If the softener is added to the boiled starch, is it melted so it can be piped to avoid splashing and burning the operator?

Is the thermoregulator properly placed in the cooking kettle so as to regulate the true kettle temperature and eliminate boil-over? It is possible to have a chart temperature of 160° F. when the greater portion of the kettle is actually at the boil. Avoid placing the thermoregulator at the very bottom of the



Why More And More Textile Mills Demand Zinser SKF Spindles

There are good reasons why more and more mills are using performance-proven Zinser Spindles with SKF inserts.

Because of the higher speeds and larger packages possible with Zinser Spindles, mills have increased production in many cases up to 20%. Zinser Spindles are smooth running at highest speeds, easier to maintain and simpler to lubricate.

Sized for bobbin weights from 1¾ ounces up to 12 pounds.

Whatever your spindle needs, investigate Zinser, manufacturers of filling spindles, warp spinning spindles, large paper package woolen spindles, high-speed twister and draw twister spindles . . . all with SKF inserts.

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kettle, behind coils, or out of reach of the agitator sweep. The agitator should come within about an inch of the thermoregulator.

If there is air pressure agitation for the starch slurry, in addition to mechanical, is there a shut-off safety valve so that the air pressure cannot be turned on again while the steam is still on so as to avoid boil-over and burns?

Is the kettle top at the proper working level for materials addition and inspection?

Are there uninsulated hot size pipes which can be accidentally touched?

Are there leaking connections on steam lines?

Is wet size allowed to remain on the floor or other working areas? It can cause dangerous falls.

Is the size volume finished off to the very brim? You should always allow six inches clearance to avoid splashing or boil-over.

Are there proper safety valves on all steam lines and drying cylinders? Are they in good working order?

Are the mechanical hoists safely positioned?

To which we add, how safe are you?

North Carolina Trade Fair Draws Some 75 Textile Manufacturers And Suppliers

Some 75 textile manufacturers and suppliers took part in the North Carolina Trade Fair, held in Charlotte, N. C., October 12-21. The fair was the first state-sponsored trade show ever held in the U. S. Products exhibited from the textile industry ranged from raschel knits to braided rugs. Following is a list of textile exhibitors classified according to product.

Spinning And Weaving Mills

Aberfoyle Mfg. Co., Gastonia
American Enka Corp., Enka
Amerotron Co., Aberdeen
Anvil Brand Inc., High Point
Bartex Spinning Co., Clayton
Beacon Mfg. Co., Swannanoa
Beaver Shirt Mfg. Co., Morehead City
Block-Southland Sportswear Inc., Wilmington
Burlington Industries, Greensboro
Cannon Mills Co., Kannapolis
Carolina Textiles Inc., Monroe
Celanese Fibers Co., Charlotte
Chatham Mfg. Co., Elkin
Cleveland Mills Co., Lawndale
Collins & Aikman Corp., Albemarle, Cavel, Concord, Norwood
Cone Mills Corp., Greensboro
Dover Textile Group, Shelby
Erwin Mills, Durham
Fieldcrest Mills, Spray
Glenoit Mills, Tarboro
Little Cotton Mfg. Co., Wadesboro
Mass. Mohair Southern, Kings Mountain
Morgan Jones Inc., Laurel Hill
Perfect-fit Products Mfg. Co., Charlotte
Polkton Mfg. Co., Polkton
Roxboro Mfg. Co., Roxboro
Wade Mfg. Co., Wadesboro
Wertheimer Bag Co., Wilmington

Knitting Mills

Adams-Millis Corp., High Point
Alba Hosiery Mills, Valdese
Allison Knitting Mills, Thomasville
Austin Knitting Mills, Albemarle
Berkshire Knitting Mills, Andrews
Chadbourn Gotham Inc., Charlotte
Dean Mfg. Co., Monroe
General Knitting Mills, Monroe
Hanes Hosiery Mills Co., Winston-Salem
P. H. Hanes Knitting Mills, Winston-Salem
Hornwood Warp Knitting Corp., Wadesboro
Jones Knitting Corp., Lumberton
Kayser-Roth Corp., Burlington
Lawrence Knitting Mills, Charlotte
Morpul Research Corp., Durham
Mount Airy Knitting Co., Mount Airy
Mozur Laces Inc., Wilmington
Norwich Mills, Inc., Clayton
Renfro Hosiery Mills, Mount Airy
Roxanne Swim Suit Co., Apex
Stedman Mfg. Co., Asheboro
Sweetree Mills, Cherryville
Washington Mills Co., Winston-Salem
West Knitting Corp., Wadesboro

Cutting And Sewing And Specialty Mills

Archdale Mfg. Co., High Point
Wm. T. Burnett & Co., Statesville
Leon Capel & Sons Inc., Troy
Carolina Glove Co., Newton
Fairmont Mfg. Co., Fairmont
Monroe Garment Co., Monroe
Talon Inc., Stanley
Warner Hall Mfg. Co., Wallace

Textile Equipment Manufacturers

American Cloth Strait Co., Charlotte
Control Electronics Inc., Charlotte
Control Foundries Inc., Charlotte
Excel Inc., Lincolnton
Gaston Co. Dyeing Machine Co., Stanley
Jenkins Metal Shops, Gastonia
Kluttz Rings Inc., Gastonia
Mehl Mfg. Co., Charlotte
Perfecting Service Co., Charlotte
Proctor-Schwartz Inc., Lexington
Roberts Co., Sanford
Space-Ray Corp., Charlotte
Morris Speizman Co., Charlotte
Terrell Machine Co., Charlotte
White Bearings Co., Charlotte

THE CHATTANOOGA YARN ASSOCIATION held its 36th annual outing September 14-15 at The Read House in Chattanooga, Tenn. Highlighting the event was an 18-hole golf tournament at the Lookout Mountain Golf Club and a skeet tournament at Brow Lake Skeet Range on Lookout Mountain. Winners in the guests' division of the golf tournament included Roger McNamara (with a net 66); and Charles Kinzer, M. C. James and Charles Heath (all with 67s). Tops in the hosts' division were Ed Ingle (66) and Ed Crawford (67). Winners of the guests' skeet shoot were Joe Billy Denson and R. E. Davis Jr., each with 50-for-50. Shuford Johnson and Bill Wood scored 50-50 in the hosts' division. Included in the more than 350 who attended the outing were *(left to right, above)* Ish Payne, Karl Whitney, Al Smith, Robert Davis and C. W. Scott, shown taking a breather at the halfway point in the golf tournament.

French Student Wants To Study Chemistry And Textiles In N. C.

The BULLETIN has received the following letter from a student at Mt. Saint Aiguan, Rouen Seine Maritime, France, who wants to come to the U. S. and particularly North Carolina to study chemistry and textiles.

Dear Sir:

I'm a French student who wants absolutely to reach the U.S.A. and particularly the North Carolina. That is why I'm trying to get a Fellidja Scholarship.

As I'm not sure you know this French organization, I'm about to tell you what I have to do: I have chosen a subject that is "the growth of the textile industry in North Carolina" and I have to plan my journey in your state. If I pass, I would get 70$ and I would have to live 2 or 3 months with this money and what I would be able to get thanks to my job. So, I'm looking for some characteristic industries where I would study and work as far as possible. (I know I'm making some mistakes but I have already gone to England and I trust my English for an eventual job.)

My subject seems interesting because no Fellidja Scholarship had been given for North Carolina and moreover that country is one of the largest textile producing regions in the world. As I'm learning maths, physics, chemistry and English (I'm 19 years old) in order to be ingeneer in chemistry, I hope you will accept to help me.

I know I will meet many difficulties but every year something like 350 "F. Students" are going all about the world, and so I am rather optimistic. A F. Scholarship has a real value for human beings.

If I can visit your mill or better work, here is my address:

J. Pierre Rousillon
I.N.S.C.I.R. Sere Gugeniem
Mt. Saint Aiguan Rouen
Seine Maritime, France

And if you ever have some pictures or maps about North Carolina industries, I would be very glad to receive some ones for I have to deliver a speech at my school about "Chemistry and Textile Industries."

Whatever the results, I want to thank you.

Yours Sincerely,
J. Pierre Roussillon

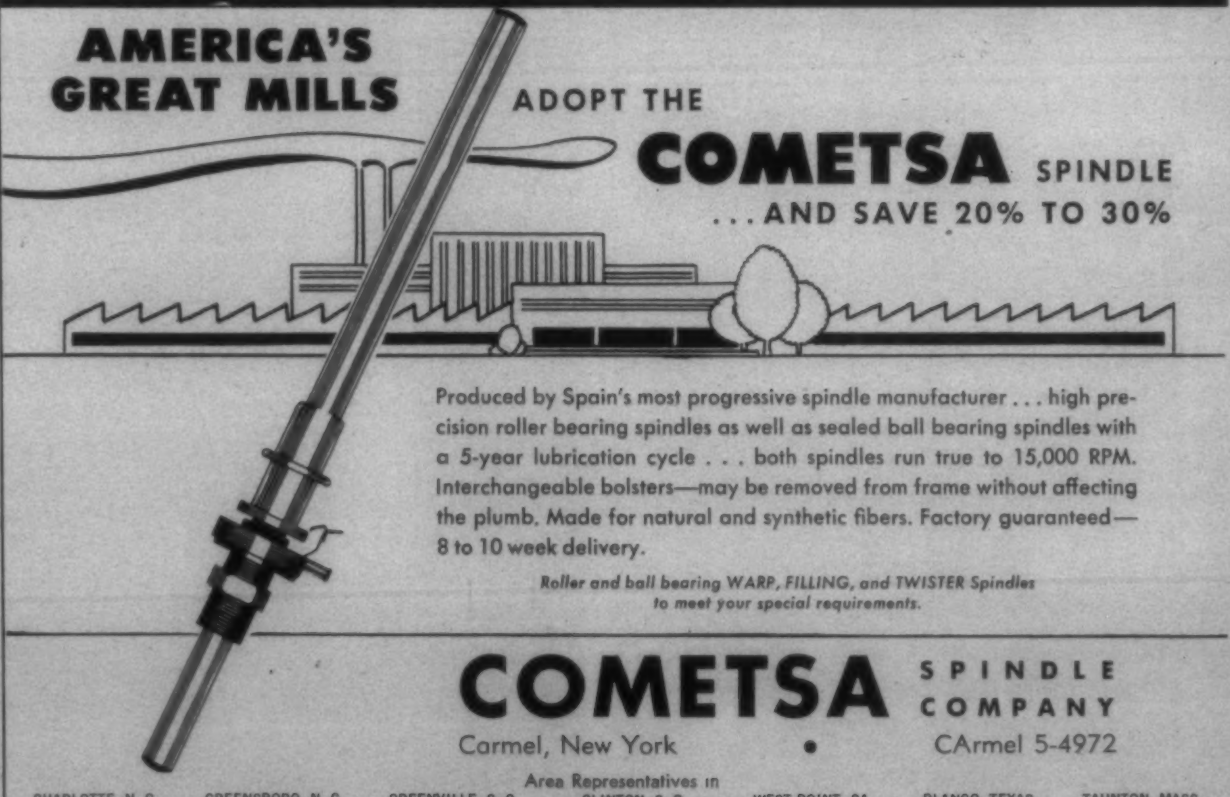
Air mail postage to France is 8 cents per half-ounce.

Saco-Lowell And Swift Mfg. Co. To Review The DuoCard For S.T.A.

The Piedmont Division of the Southern Textile Association will feature a discussion on dual carding at its Fall meeting November 9 in Charlotte. Otis B. Alston, general superintendent of Swift Spinning Mills, Columbus, Ga., the man who developed Swift's DuoCard tandem carding system, will be a featured member of a panel that will also include Herman Jones of Saco-Lowell Shops who will review his firm's plans for making the DuoCard available on a license basis.

Other members of the panel include Ralph Barnard, field research co-ordinator for the School of Textiles, N. C. State College, and Albert S. Orr, Union Mills, Monroe, N. C.

The meeting, open to all who wish to attend, will be held at the Johnston Memorial Y.M.C.A. beginning with supper at 6:30 p. m., the technical program at 7:15 p. m.



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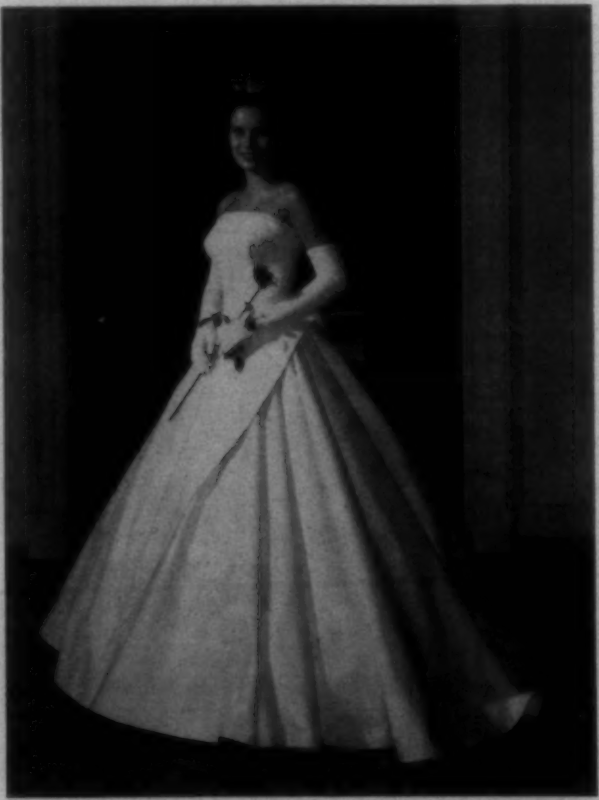
Underwear Man Praised For His Design Of Miss America's Gown

Stedman Mfg. Co. of Asheboro, N. C., producer of men's and boys' cotton woven and knit underwear and sportswear, can claim at least a small portion of the credit for the many praises bestowed on Miss America of 1962 at her coronation last month in Atlantic City, N. J.

Self

The formal presentation gown worn by Maria Beale Fletcher of Asheville, N. C., was designed by Stedman's manager of research and development, Luther Winborne Self. With Stedman he is primarily concerned with developing and improving men's and boys' underwear, as well as fabrics used in making them. But he is also well-known as a couturier of high styled gowns for women. His fame as a designer isn't lately arrived either. For the past several years he has designed gowns for several Southern beauties participating in the Miss America Pageant. Last year, for example, he designed and made formal gowns for both Miss North Carolina and Miss South Carolina.

Self is a graduate of the North Carolina State College School of Textiles, and under a Fulbright Scholarship studied textiles for one year at the University of Leeds in England. He has a masters degree in business from the University of North Carolina and has traveled extensively throughout Europe and Central America studying textile fabrics and designs. Since college he has acted as a design consultant on a free-lance basis for several major textile firms.


Miss America's gown is made of Cone Mills' polished cotton.

Textile Problems Range Far And Wide

(Continued from Page 51)

Wash And Wear Finishes

Wash and wear fabrics have become a part of the American way of life. This interesting development has done much to more firmly entrench cotton in the wearing apparel field. Like the synthetic fibers, the materials and processes used on fabrics to impart these qualities are an outgrowth of fundamental research in organic chemistry in the field of polymers.

There are three general classes of these chemical finishes currently in use. The first, which represents a vast majority of yardage being produced, are the thermosetting resins. Competition has been so keen among suppliers of these resins that their prices are only about 50% of what they were four years ago. The nitrogenous thermosetting resins have objectional characteristics which many of you have undoubtedly experienced; raspy hand, odor formation, not comfortable to wear, chlorine retention, soil pick-up, etc.

In attempting to overcome these deficiencies, two new types of wash and wear finishes have appeared on the scene. These are the so-called non-resinous finishes and a combination of non-resinous treatments and thermosetting resin.

Perhaps the outstanding weakness of wash and wear finishes is the strength loss (about 50%) of the fabric as a result of the treatment. This has created a demand for higher strength greige goods which has its attendant problems. Considerable investigation has been made to find a finish which has little or no effect on strength.

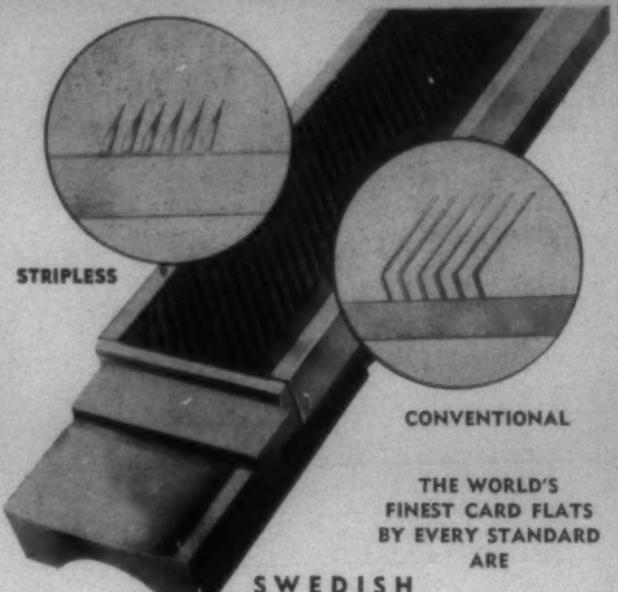
Foam Laminates

Another interesting development receiving a lot of attention is the lamination of flexible foams to fabrics. These synthetic foams are technically known as polyurethanes. The major potential usage in textiles now appears to be in making garments with high thermal insulating qualities without weight. It is claimed that a polyurethane foam one-eighth inch thick gives as much warmth as a 100% wool 32 ounces per square yard fabric. There are many other uses too: interlinings, backings for rugs, bathmats, beachmats, upholstery, bedspreads, draperies, table covers, etc. The properties of these materials can be controlled to such a degree that their use is functional and highly desirable. They can be semi-rigid or quite soft. Resistance to chemicals, weather and air oxidation is excellent as well as fastness to washing and dry cleaning.

There are many applications also in fields other than textiles where these foams are finding important uses. A recent market survey predicts that by 1965 the annual production of rigid and flexible foams will reach 750 million pounds.

Textile Industry Far Behind

Although we hear a great deal about research, our industry is still far behind other major industries in terms of dollars, man-hours and effort spent on this type of endeavor. As far as textiles are concerned, research is still in its infancy. Our greatest need is more well qualified research personnel with creative and inventive ability. Research does not solve all problems. However, research is absolutely necessary for the textile industry if it is to progress materially, and material progress is necessary for economic growth. It is estimated that during the 1960's in these United States some $160 billion will be spent on research and development. There must be something to it.



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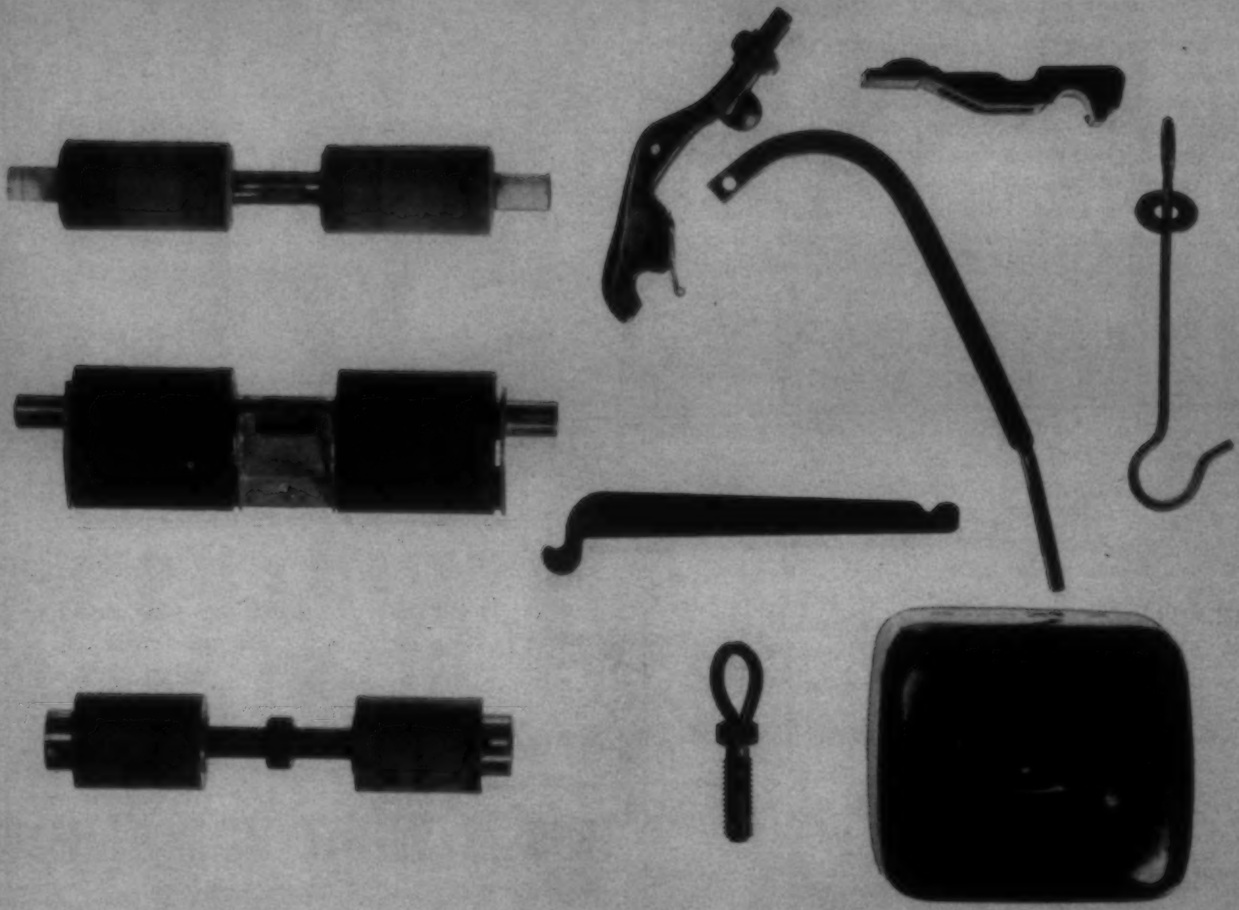

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3500 less parts to oil, clean, maintain when you switch to MagneDraft . . . the only Spinning System that consistently produces high quality

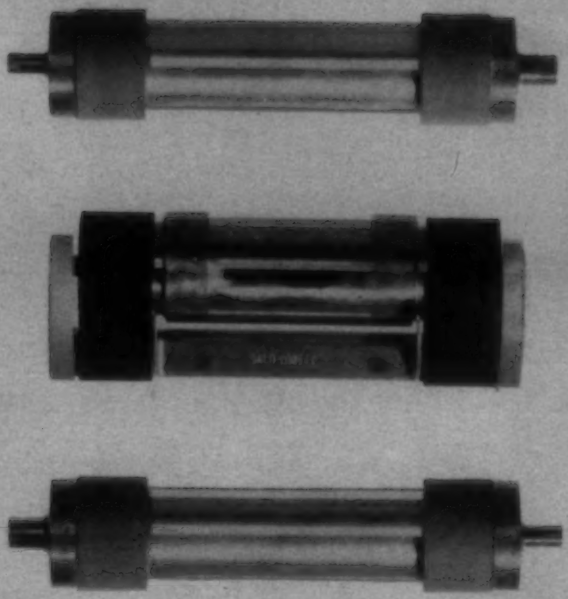
Saco-Lowell's MagneDraft* spinning system lets you replace the complicated and cumbersome drafting of conventional systems, shown above at left, with the simple 3-piece assembly, above next page.

MagneDraft's simplicity results from unvarying magnetic forces. Saddles, stirrups, levers, hooks and springs or weights are dispensed with entirely, for 7 less parts per 2 spindles . . . 3500 fewer parts per 1000 spindles.

With no lubrication required in the drafting zone, MagneDraft spins cleaner. Parts that do require cleaning are easily reached — for a savings, in all, of 60 to 90% of normal cleaning time.

Like all Saco-Lowell products, MagneDraft spinning systems have these two important plus values for you:

Built for Better Performance. MagneDraft creates a positive nip. The squeezing action between top and bottom rolls eliminates deflection of the bottom rolls.



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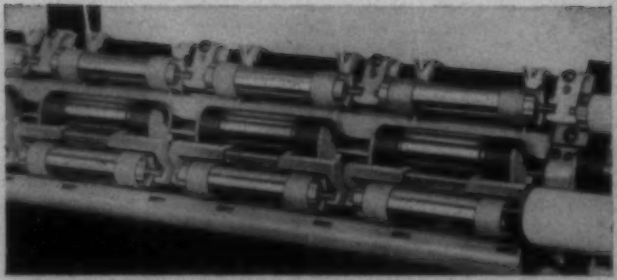
Already in use in mills everywhere, MagneDraft is preferred by mill personnel at every level . . . proving once more that in textiles, as in other fields, the simplest answer is often the best.

*U.S. Patent Number 2,686,940.

For reprints of an actual mill report on MagneDraft performance, with statistical tabulations, write Saco-Lowell Shops, Textile Machinery Division, Greenville, S. C. Or contact the Saco-Lowell sales office nearest you.



New Model MagneDraft, shown above, wins praise for the convenient end-around piecing its top front roll support permits. Available also in standard model without this feature.

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PERSONAL NEWS

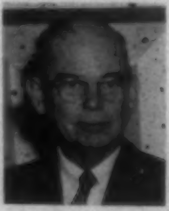
Spears

Jackson E. Spears, chairman of the Foreign Trade Committee of the American Cotton Manufacturers Institute and a former vice-president of Burlington Industries, has joined the Department of Commerce as assistant to the Assistant Secretary for Domestic Affairs. Spears is a veteran of government service, having served as head of the finished goods section, Consumer Goods Price Division of the O.P.A. during World War II. During the Korean War he was head of the rayon section in the O.P.S. textile branch. He has servered all connections with the textile industry and has resigned as chairman of the Foreign Trade Committee of A.C.M.I.

Clyde Thomas, assistant superintendent of printing at Riegel Textile Corp., Trion, Ga., has been transferred in that same capacity to the company's Ware Shoals, S. C., division. Thomas had been transferred to Trion by the company in 1941 as overseer of printing. . . . M. G. Michael, overseer of printing at the Ware Shoals division, has been transferred to Trion in that same capacity. He joined Riegel in 1951 after graduation from Clemson College.

A. L. Park has retired from the sales department of Saco-Lowell Shops after 25 years of service. He will, however, continue to be active as a consultant in the textile field, and is currently in Yugoslavia supervising the erection of certain equipment, as well as handling other consultant assignments. Later he plans to go to South America. Park joined Saco-Lowell in 1936 as an erector on cards and combers. Later he transferred to the product engineering and development department and in 1950 designed and developed the Positrol slasher. In 1958 Park joined the dryer group as a sales supervisor, remaining in that division until his retirement.

Wlodek L. Ginilewicz has been appointed a supervisor of technical service for Air Reduction Chemical & Carbide Co., New York City, a division of Air Reduction Co. Ginilewicz will be in charge of technical service to the textile industry, supervising research on textile sizings, coatings, finishes, binders and related applications for polyvinyl alcohols, polyvinyl acetates, surface active agents and other chemicals. Formerly a senior chemist in the central research laboratories of the company, Ginilewicz joined Airco in 1960 to conduct long-range studies on textile applications. His operations will be transferred from the central research laboratories at Murray Hill, N. J., to the Air Reduction development laboratory at Bound Brook, N. J. Earlier, Ginilewicz was a group leader with Onyx Chemical Corp., Jersey City, N. J., responsible for research and development of textile chemicals. From 1953 to 1956, he was a laboratory supervisor for J. P. Stevens & Co., New York City. Ginilewicz received a B. S. degree in textile chemistry from the Municipal College of Burnley, England, and a B. S. degree in economics from the University of London, England. He also received a M. S. degree in polymer chemistry from Stevens Institute of Technology, Hoboken, N. J., and is an associate member of the Textile Institute.



Fitzsimons

E. O. Fitzsimons has been re-elected executive vice-president of the Carded Yarn Association. Fitzsimons became active in association work in 1936 as executive vice-president of the carded yarn section of the Cotton Textile Institute, which he served for ten years. In 1946, he was instrumental in starting the C.Y.A. and became its chief executive officer at that time. At the group's recent annual convention he was awarded a color television in appreciation of his services.

O. L. Moore, a 1935 graduate of the School of Textiles of North Carolina State College, Raleigh, has joined the faculty of his alma mater as an assistant professor of textiles. Moore is to work with G. H. Dunlap, placement director, and Prof. W. E. Smith in an expanded student recruitment program. In addition to his textile degree, Moore has studied mechanical engineering at Johns Hopkins University. His experience includes working with Fieldcrest Mills, Leaksville, N. C.; Burlington Mills, High Point and Lexington, N. C.; Robbins Mills, Red Springs, N. C.; Bloomsburg Mills, Dallas, Pa.; Chase Bag Co., Goshen, Ala.; and United Merchants & Manufacturers at Statesville, N. C.

Robert N. Stokes, assistant treasurer of Burlington Industries, Greensboro, N. C., has announced his retirement. He has been with the company over 20 years, having consented to work an extra year past normal retirement. Before rising to the post of assistant treasurer in 1957, Stokes had served the company as a tax accountant. Prior to joining Burlington in 1941, he was a partner in a New York public accounting firm. A graduate of Emory University in Atlanta, he is a certified public accountant in the states of Georgia, New York and North Carolina.

Bennett

Frank C. Bennett has resigned as president of the Anniston Mfg. Co., Anniston, Ala., a subsidiary of Chicopee Mfg. Corp. He will become associated with the Mobile and Anniston branches of Thornton, Mohr, Farrish & Gauntt Inc., investment bankers and brokers in Montgomery, Ala. Bennett has been president and treasurer of Anniston since 1959. He joined the company as an engineer in 1944 and later moved into the sales department. In 1954 he was elevated to secretary-director. A graduate of Syracuse University, he has been active in both the Alabama Textile Manufacturers Association and the American Cotton Manufacturers Institute. He was a delegate to the National Cotton Council from 1959 to 1962 and is a member of the board of governors of the Cotton History Group.

C. G. Jenkins has joined Wade Mfg. Co., Wadesboro, N. C., as superintendent of manufacturing. Jenkins' experience includes a tenure with Dan River Mills at the Dadeville and Wetumpka, Ala., plants as superintendent and also as superintendent of Eagle & Phenix Mills, Columbus, Ga. He is a graduate of Georgia Tech with a degree in textile engineering.

Tigler

Keels

Leon Tigler has been named assistant director of research and development and Harold Keels superintendent of dyeing at the American Finishing Co., Memphis, Tenn. Before joining American Finishing, Tigler was, for five years, technical superintendent of the cotton finishing division of Eagle & Phenix Division of Reeves Brothers. Before that he was a chemist for seven years at the Kerr

Bleachery and prior to that worked for several large dyestuff manufacturers. Tigler holds a B. S. degree in textile chemistry from Clemson College and is a member of the American Chemical Society and vice-president of the Southeast Section of the American Association of Textile Chemists & Colorists. In his new assignment Tigler will work with Charles J. Chaban, who joined the company earlier this year as director of research and development. Harold Keels had been with the North Carolina Finishing Co., Salisbury, for over ten years before joining American Finishing. He holds a B. S. degree in textile chemistry from North Carolina State College.

C. E. McAllister has been promoted and transferred from general overseer of carding and spinning at Smitherman Cotton Mills, Troy, N. C., to plant manager of the company's Lumberton, N. C., plant, the Lumber River Mills.

J. W. Walker has joined Kingsley Mill, Thomson, Ga., and Machias (Me.) Mill Corp. as general manager. He was formerly general manager of Judson Mills, Greenville, S. C., a member of the Deering Milliken group. Walker has filled various supervisory capacities with Deering Milliken since 1949.

J. Theodore Wolfson has been appointed to the newly-created post of assistant to the chairman of Maremont Corp., Chicago. He continues as president of the company's two export subsidiaries, Maremont International Corp. and Maremont Overseas Corp. He is also vice-president of Saco-Lowell Shops, now a Maremont subsidiary. Wolfson has been associated with foreign trade during most of his 18-year tenure with Maremont. During 1960, he was president of the International Trade Club of Chicago. He has also served on the Export Expansion Committee of the Secretary of Commerce and is an active member of several national and local trade relations organizations.

Tucker

Herbert S. Tucker has been appointed secretary-treasurer of the Duplan Corp., Winston-Salem, N. C. The appointment was effective October 1. A native of Edwardsville, Pa., Tucker has been with Duplan for 30 years, previously serving as comptroller. He will be in the company's main office in Winston-Salem.

J. L. Mortimer has been named president of the newly-formed Burlington Automotive Fabrics Co., Rocky Mount, N. C., a division of Burlington Industries. With Burlington since 1955, he will be responsible for woven automotive fabrics previously manufactured and sold under the names Goodall, Sidney Blumenthal & Co. and Burlington Automotive Fabrics. Prior to joining Burlington, Mortimer was general manager of the Massachusetts Mohair Plush Co.

Doyle C. Nicely, formerly supervisor of industrial product development, has been promoted to superintendent, textile development, for Chemstrand Corp., Decatur, Ala. Nicely's new responsibilities will include development work on new and improved end uses for Chemstrand Acrilan and nylon, as well as evaluation of new and improved fibers. He joined Chemstrand in 1955 as a textile engineer and subsequently served as service superintendent of the research and development division and group leader, nonwoven fabrics group. Previously, he was associated with The Viking Corp. in Chicago and Little Rock, and Continental Industrial Engineers of Chicago.

Roberts Co., Sanford, N. C., has announced two key appointments at its newly-acquired Greenwood (S. C.) Division. D. M. Pitts has been named works manager and Thomas Lee has been appointed manager. Pitts, who has been active in industrial engineering for the past 20 years, leaves Lockheed Aircraft in Marietta, Ga., to join Roberts. He is also resigning his present position of national vice-president of the American Institute of Industrial Engineers. Pitts studied business administration at the University of Georgia. Lee has been with Roberts since 1952 and in the foundry business since 1950. He was with General Foundry & Machine Co. before that company merged with Roberts. He was superintendent of Roberts No. 2 plant before being transferred to Greenwood.

Erwin Mills, Durham, N. C., has announced a number of personnel changes following the return of Eddie W. Seigler, vice-president and general manager, to a similar post with Abney Mills, Greenwood, S. C. . . . Marchant C. Cottingham has been named to succeed

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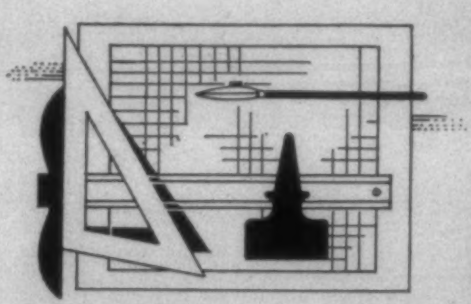

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Seigler as vite-president and general manager in charge of manufacturing in all Erwin plants. Cottingham joined Erwin in 1950 as assistant general manager. . . . E. G. McIver will continue to be associated with Cottingham, serving as assistant vice-president, manufacturing. . . . T. C. Pegram, superintendent of the No. 1 mill at Durham, retired October 1 and has been succeeded by John T. Threatt, who has served as assistant superintendent of the mill for the past six years. Pegram, a past president of the Southern Textile Association (1942-43), had been with Erwin 32 years, serving as superintendent of the company's Cooleemee plant prior to transferring to Durham in 1950. A graduate of N. C. State College, he had also been associated with Dan River Mills, Danville, Va., Marlboro Cotton Mills, McColl, S. C., Leak Mfg. Co., Rockingham, N. C., and Textiles-Incorporated, Kings Mountain, N. C., prior to joining Erwin. Threatt has been with Erwin 18 years. Prior to that he served 17 years with Greenwood Mills, Greenwood, S. C. He is a native of Whitmire, S. C. . . . Succeeding Threatt as assistant superintendent is Gilbert C. Mays, formerly general overseer of spinning at the No. 1 mill. Mays, a graduate of N. C. State, first joined Erwin in 1937. Following military service and college, he rejoined the company in 1948. Also active in the Southern Textile Association, he is now serving as chairman of its Eastern Carolina Division. . . . Walter Cheatham Ball, a former assistant to Mays, succeeds him as general overseer of spinning. William A. Pendergrass, a section foreman, succeeeds Ball as assistant shift overseer.

Claude Crocker of Clinton-Lydia Mills, Clinton, S. C., has been named chairman of the Personnel Division of the South Carolina Textile Manufacturers Association. He succeeds W. H. Lawson of Clearwater Finishing Co. J. W. Green of the Deering Milliken Service Corp. in Spartanburg, S. C., has been named vice-chairman. Named to the board of directors were Joseph Sullivan of Raybestos-Manhattan Corp., Charleston; Francis Bell, Springs Cotton Mills, Fort Mill; John Mulliken, J. P. Stevens & Co., Piedmont; and Bill Williams, Greenwood Mills, Greenwood.

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Taws

Edward T. Taws Sr. has been named by the Rydal-Meadowbrook (Pa.) Civic Association to receive its annual "Man of the Year" award. Taws, president of the Fletcher Industries, Cheltenham, Pa., has served as Abington Township Commissioner for the past four years. He recently announced that he will not be a candidate to succeed himself for the office.

W. C. Holland has been promoted to assistant overseer of spinning on the third shift at the J. P. Stevens' plant in Whitmire, S. C. Prior to his promotion, Holland was a fixer.

American Enka Corp., Enka, N. C., has announced new appointments for H. G. Heedy and M. F. Wesenhagen. Heedy has been named assistant general manager, rayon staple fiber. He will be accountable for the manufacture, sale and profitability of all rayon staple products. He is former manager of Enka's rayon staple plant at Lowland, Tenn., and more recently was product manager for rayon staple. He has also held positions in industrial engineering, manufacturing and marketing since joining the company in 1946. Wesenhagen has been named assistant general manager, rayon filament yarn. He will be accountable for the manufacture, sale and profitability of all continuous filament rayon yarns, including textile, tire and industrial yarns. Wesenhagen recently came to this country from Holland where he was plant manager of the Breda rayon and cellophane plant of Algemene Kunstzijde Unie, N.V. (A.K.U.)—Enka's parent company.

Wesenhagen

Heedy

Dr. William A. Raimond has been appointed deputy technical director, Ciba Co., Fair Lawn, N. J. Dr. Raimond has been associated with American Cyanamid since 1942. Prior to this, he was a chemistry instructor at Rutgers University. With Cyanamid he most recently served as technical assistant to the president, Arizona Chemical Co. (jointly owned concern of American Cyanamid Co. and International Paper Co.) where he was responsible for the research and development programs. Prior to this post, he served as technical director of the engineering and construction division, technical director of the organic chemicals division, technical director dyes and related products division, chief chemist in the vat dye department and as research chemist. Before starting his new appointment, Dr. Raimond will spend several months at Ciba Ltd., Basle, Switzerland. He is a member of the American Chemical Society; a fellow of the American Institute of Chemists and treasurer of this organization's New Jersey chapter; and a member of both the Institute of Chemical Engineers and the American Association of Textile Chemists & Colorists.

Clyde N. Whitesides has been appointed sales manager for the textile chemicals department, American Cyanamid Co., and will be headquartered in Bound Brook, N. J. Whitesides joined Cyanamid in 1949 as a sales trainee at the Charlotte office. He subsequently was named technical sales representative for textile chemicals in 1950, and Southern district manager in 1960. He is a graduate of North Carolina State College, and a member of the American Association of Textile Chemists & Colorists.

Floyd

William B. Floyd has resigned from Uster Corp., Charlotte, N. C., to form the Industrial Laboratory Equipment Co., also in Charlotte, to represent manufacturers of laboratory equipment in the textile and chemical industries. Floyd was with Uster for nine years, six as sales manager and more recently as head of engineered systems. Prior to joining Uster, Floyd was in charge of communications of the Flight Research Division of the Air Transport Command of the U. S. Air Force and later head of his own electronics business.

James J. Bader has been named product manager for industrial products by the Dobeckmun Division of The Dow Chemical Co., Cleveland, Ohio. Bader succeeds John T. Hastings, who has resigned. He has been Hastings' assistant since March of this year. Bader joined Dobeckmun in 1949 while he was attending John Carroll University in Cleveland.

Dr. Allen W. Stoner has been appointed manager of the synthetic fiber research department at U. S. Rubber Co.'s research center, succeeding Dr. Clide I. Carr, who has been transferred to a similar position as manager of the elastomers research department. Since joining the company in 1956 as a research scientist, Dr. Stoner has been engaged in radiation research, the application of atomic energy to the rubber field and fundamental chemical research. In his new position he will be responsible for the chemistry and physics problems in the design, manufacture and use of man-made fibers.

Lester S. Sinness, assistant general manager of Du Pont's textile fibers department, will succeed retiring Andrew E. Buchanan Jr. as general manager effective December 1. Sinness joined Du Pont as a research chemist in 1935. He was named assistant director of rayon research in 1941; assistant manager of the rayon technical division in 1950; director of fiber sales in 1953; and assistant general manager of the textile fibers department in 1955. Buchanan first joined Du Pont in 1918, left in 1921 and returned in 1936 to Remington Arms Co., a Du Pont subsidiary. Toward the end of World War II he was transferred to the company's rayon department, becoming its assistant general manager two years later. . . . Succeeding Sinness as assistant general manager of the textile fibers department will be Russell C. Weigel, now assistant general manager of the company's polychemicals department. Weigel has been with Du Pont since 1934.

Kenneth C. Laughlin has been appointed assistant to the director of research and development, Allied Chemical Corp., National Aniline Division, New York City. Dr. Laughlin, a graduate of Huron College, Huron, S. D., and Pennsylvania State University, University Park, Pa., was formerly employed by the Celanese Fibers Co. in Charlotte. In his new position, Dr. Laughlin will be stationed at National's Chesterfield location near Hopewell, Va.

Dr. Harley Y. Jennings, visiting research professor at the School of Textiles, North Carolina State College, has been awarded an honorary membership in the Eta Chapter of Phi Psi textile fraternity. Dr. Jennings was director of research for Dan River Mills, Danville, Va., until his retirement in 1958. He was a pioneer in the development of wash and wear finishes, their application to fabrics and their formulation. Prior to joining Dan River in 1943, he developed a process for producing safety glass for Shatterproof Glass Co., Detroit, Mich., and was vice-president and research director for Copeman Laboratories at Flint, Mich.

Selbee

James A. Selbee has been appointed regional manager of the three-state Charlotte region of Diamond Crystal Salt Co., St. Clair, Mich. Selbee succeeds Earl B. Adams, who has retired after 27 years with the company, including nine in the Charlotte post. A 13-year company veteran, Selbee was previously assistant manager of industrial sales at the firm's St. Clair, Mich., headquarters. He has also held sales positions in Huntington, W. Va.; Louisville, Ky.; Green Bay, Wisc.; and Chicago.

A. Henry Thurston, director of the Textiles and Clothing Division, U. S. Department of Commerce, has retired as a result of a reorganization of the Business and Defense Services Administration which combines the Textiles and Clothing Division and the Leather and Leather Products Division into a Textile and Leather Division. Thurston will continue to make his home in Washington at 4515 Dexter Street, N. W., and will aid companies and organizations seeking assistance in governmental matters. Before joining Commerce, he was assistant sales manager of Albany Felt Co.; served with the War Production Board as a "Dollar-a-Year" Man; was assistant editor of *Textile World;* and merchandised cotton piece goods. During the Korean War he headed the Textile Division of the National Production Authority. He has represented the U. S. government at a number of international meetings dealing with textiles. In 1960 he was awarded the Commerce Department silver medal for meritorious service.

Sarti

George W. Sarti has been named vice-president in charge of Southern operations for Crown Chemical Corp., Providence, R. I. Crown is expanding its production and service facilities in the South, and will soon announce plans for a new plant in the area. Until completion of the plant Sarti will make his headquarters at the company's Greenville, S. C., office, from where he will also direct activities of Crown's subsidiary, Cravenette Co. Sarti has been active in textiles throughout his career. From 1934 to 1937 he was general manager of The Patchogue Dyeing & Finishing Co.; from 1937 to 1945 he was vice-president and general manager of North Carolina Fabrics (now North Carolina Finishing Co.); from 1945 to 1953 he was general manager of Old Fort Finishing Plant, a division of United Merchants & Manufacturers; and from 1953 until his recent resignation he was assistant vice-president of Metro-Atlantic Inc.

Howard M. Brittain has been assigned to Pennsalt Chemicals Corp.'s Atlanta regional office as a technical service representative. He will be responsible for assisting textile finishing companies in the Southeast. Before joining Pennsalt in May 1961, Brittain was with the bleaching department of Cone Mills Corp., Greensboro, N. C. He is a graduate of North Carolina State College at Raleigh with a B. S. in chemical engineering.

Thomas D. Lewis Jr. has been appointed tire cord sales manager and Theodore E. Carlson industrial products sales manager by Industrial Rayon Co., a division of Midland-Ross Corp., Cleveland, Ohio. Lewis, who had served as assistant tire cord sales manager for the past two years, joined Industrial Rayon as a chemist in 1949. He was in charge of the sales service section of the company's central laboratory from 1956 to 1958 when he was transferred to the sales staff. He is a graduate of North Carolina State College where he received his degree in textile chemistry and dyeing. Prior to joining Industrial Rayon in 1952, Carlson was plant manager and assistant to the president of Indurayon Co. in Colombia, S. A. He has served in production and sales capacities at Industrial Rayon and was responsible for the market development program of the company's adhesive-treated and non-treated yarns and cord for industrial products. Carlson is a graduate of New Bedford Textile Institute.

R. K. Flege, president of the National Council for Textile Education, has been named professor of textile engineering at Georgia Tech's A. French Textile School in Atlanta. He will teach textile chemistry and also be active in the expansion of the textile graduate and research programs. Flege was formerly with Texas Technological College, where he was professor and head of the textile engineering department and co-ordinator of textile research. He is a member of the American Association of Textile Chemists & Colorists, the American Statistical Association, the American Cotton Congress and the American Chemical Society.

Holmes

Kaner

American Enka Corp., New York City, has reorganized its merchandising activities on a divisional basis, appointing S. W. Holmes as rayon merchandising director and Jay Kaner as nylon merchandising director. Kaner will continue to handle advertising on a centralized basis as director of advertising for all products, reporting to Dr. Frits Prakke, vice-president. Holmes will report to Dr. Prakke who is also general manager of the rayon division. In addition to his duties as rayon merchandising director, Holmes will also assume responsibility for sales to certain key accounts outside the New York territory. As nylon merchandising director, Kaner will report to Claude S. Ramsey Jr., general manager of the nylon division. Previously Holmes was director of merchandising and Kaner was advertising and merchandising manager.

John I. Snyder Jr. has been named chairman of the board and chief executive officer of General Aniline & Film Corp., New York City. He succeeds Thomas A. Morgan

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who has retired as chairman. Snyder, who was vice-chairman, is also president and board chairman of U. S. Industries Inc., New York, and a director of American Research and Development Corp. of Boston, Cory Corp. of Chicago, Vickers-Armstrong Inc., of Washington, D. C., and Commerce Oil & Refining Corp., Medical & Science Communications Development Corp., Medical Tribune and Metro-Goldwyn-Mayer Inc., all of New York City. He was elected to the General Aniline & Film board last April and shortly thereafter named to the executive committee and as vice-chairman. Philip M. Dinkins, president of General Aniline & Film Corp., will continue to serve in that capacity.

Platt

The first Fiber Society award for "Distinguished Achievement in Basic or Applied Fiber Science" has been presented to Dr. Milton M. Platt. Dr. Platt, vice-president and associate director of Fabric Research Laboratories, Dedham, Mass., was cited by Dr. J. H. Dillon, president of the Society, for his many contributions to fiber technology during his 15 years of association with Fabric Research Laboratories, particularly in a better understanding of fabric engineering. Dr. Platt is a graduate of Massachusetts Institute of Technology with degrees in civil engineering. He holds memberships in The Textile Institute, the Textile Research Institute, the Fiber Society and has an honorary life membership in the Lowell Technological Institute Engineering Society. Author of more than 20 technical publications, and a registered professional engineer, Dr. Platt is a past consultant to the Office of the Quartermaster General, a member of the National Academy of Sciences, National Research Council Committee on Textiles and is listed in "American Men of Science."

Fred C. Foy, chairman of the board of Koppers Co. Inc., has been elected to the board of directors of Courtaulds North America. Foy becomes the first official of Koppers to join the Courtaulds board. J. Albert Woods, board chairman of Courtaulds North America, and Arthur W. Knight, a director of Courtaulds Ltd., its parent British corporation, joined the Koppers board last June soon after the announcement of the purchase of an interest in the Koppers common stock by Courtaulds.

William P. Crawley has been named a sales representative in the fiber department of Hercules Powder Co. Crawley, who will make his headquarters in Charlotte and will cover all of the Southern states, was formerly with American Viscose Corp. and the Carborundum Co.

Dr. J. H. Dillon, president of the Textile Research Institute, has been elected president of the Fiber Society. Formerly vice-president of the society, Dr. Dillon succeeds Dr. Stanley Backer of M.I.T. . . . Erle V. Painter, director of research for the filter products division of Johnson & Johnson, was elected vice-president. . . . Re-elections included Dr. H. M. Brown, research consultant, Clemson, S. C., treasurer; and J. S. Jacobs, Athens, Ga., secretary. . . . Dr. Bruno Roberts, Chemstrand Research Center, and H. R. Wakeham, Philip Morris Research Center, were elected to the governing council.

Fitzsimons

G. O. Fitzsimons has resigned as production control manager for Beacon Mfg. Co., Swannanoa, N. C., where he was responsible for scheduling all production for the three company plants as well as customer service relations with all accounts in conjunction with sales. Prior to joining Beacon in 1959, Fitzsimons was with the Ralph E. Loper Co. in Greenville, S. C., for three years and A. M. Pullen & Co., Greensboro, N. C., for four years. He has attended both Belmont Abbey Junior College in Belmont, N. C., and the School of Textiles, North Carolina State College, Raleigh. He has not announced his future plans.

Ciba Co. has announced the following recent personnel changes . . . . Neil Richard Smith, formerly with U. S. Gypsum Co., Warwick, R. I., has been named office manager of Ciba's Rumford, R. I., district office. . . . Paul F. Wilson has been named technical supervisor, chemical specialties laboratory, Charlotte, N. C. . . . and Preston Roy Harrington has been transferred from the Charlotte district office to the Los Angeles office as head of the latter's laboratory.

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Butterworth

J. Elbert Butterworth has retired as president and chairman of the board of H. W. Butterworth & Sons Co., Bethayres, Pa., after 45 years with the firm. He was elected president of the company in 1952 when the late Harry W. Butterworth Jr. retired and was elected chairman of the board a year later. He has served on the board for more than 40 years, and had been a vice-president of the company since 1927. His entire business career has been spent with the company founded by his great-great-grandfather in 1820.

OBITUARIES

Dwight M. Davidson Jr., 47, president of Engineered Plastics Inc., Gibsonville, N. C., died October 18 in Liverpool, England, while enroute to the International Knitting Machinery & Accessories Exhibition, Manchester, England. His widow and three children survive.

Albert Johnson, 51, an assistant manager of the Lanett Mill division of West Point (Ga.) Mfg. Co. since 1943, died recently of a heart attack after being seriously ill for a short time. Mr. Johnson began his textile career in 1924 when he worked part time in West Point's Shawmut Mill. He joined Buck Creek Cotton Mills in Siluria, Ala., in 1929 and resigned in 1934 to take the position of production manager of the Lanett Mill. Surviving are his widow, a son and a daughter.

George P. McClenaghan, 63, vice-president in charge of the cotton division of J. P. Stevens & Co., died October 13 in Greenville, S. C. A graduate of Georgia Tech, Mr. McClenaghan had been with Stevens since 1936. He was named a director of the company in 1949, a vice-president in 1950, a member of the manufacturing advisory committee in 1956 and a member of the executive committee in 1958. He was placed in charge of the cotton division in 1958 when Stevens realigned its manufacturing activities according to basic fiber. He was elected president of the South Carolina Textile Manufacturers Association in 1960, but relinquished the post in December of that year following a heart attack the previous July. Survivors include his widow, a daughter and a sister.

Troy Broughton Stone, 61, retired director of public relations for Fulton Industries, Atlanta, died September 25. Mr. Stone joined Fulton as personnel director in 1936 and was named director of public relations in 1952. Retired since 1955, he was a past director of the personnel managers division of the Cotton Manufacturers Association of Georgia. He is survived by two sisters.

MILL NEWS

CONSTRUCTION, NEW EQUIPMENT, FINANCIAL REPORTS, CHARTERS, AWARDS, VILLAGE ACTIVITY, SALES AND PURCHASES

Gastonia, N. C.—Textiles-Incorporated has closed its Arkray Mill to consolidate operations. All spinning, carding and twisting frames from the plant are being moved to the company's other four plants. The move has resulted in the reduction of the company's work force but not productivity. When all equipment has been transferred, the Arkray building will be utilized to expand Threads-Incorporated, a wholly-owned subsidiary of Textiles-Incorporated.

New York, N. Y.—Reeves Brothers Inc. has reported net earnings of $237,032 for the first fiscal quarter ended September 30. This compares with $60,749 during the like quarter last year. Net sales totaled $14.4 million as compared with $12.9 million a year ago. John E. Reeves, president, said that the company's textile division accounted for about 75% of the firm's sales and is expected to operate at a profit this fiscal year as compared with a loss the last. In addition, he noted that the textile demand has not moved into a strong upturn, despite the flurry of activity about a month ago. Booking for the company is currently running 15% higher than this time last year, although the company is not accepting orders on future deliveries that do not take higher cotton costs into consideration.

Clearwater, S. C.—In an N.L.R.B. election conducted here, employees of Clearwater Finishing Co. voted 496 to 304 against representation by the Textile Workers Union of America, AFL-CIO. The election was held as the result of a stipulation entered into by the company and the union on September 19 following the union's petition for an election filed on August 21. In a previous election, held at the plant in 1952, the United Textile Workers was rejected. Clearwater Finishing is a division of United Merchants & Manufacturers.

Milledgeville, Ga.—J. P. Stevens & Co. has made arrangements to acquire the woolen plant leased by Burlington Industries at Tifton, Ga. The plant, which produces woolen fabrics for the women's sportswear trade, has been part of the Peerless Woolen Mills Division of Burlington. Fabrics have been sold through the Burlington Woolen Co. Division.

Rossville, Tenn.—Peerless Woolen Mills, division of Burlington Industries, has announced that it will liquidate its plant here because all sale offers received have been considerably less than would be realized through liquidation. All present or repeat orders for the plant are to be filled in other plants of the company. No further yarn orders are being accepted. The move is expected to take from four to six months and will affect some 1,750 people.

Cornelius, N. C. — Reeves Brothers has sold its Curon foam laminating plant to the Southern Baptist Convention for over $1 million with the provision that the company can lease it back for at least a 20-year period. The Curon division formerly occupied some 120,000 square feet of the 278,000 square-foot structure. Prior to its purchase by Reeves, the building was owned and occupied by Samuel Hird & Sons.

West Point, Ga.—West Point Mfg. Co. has announced a net profit of $5.2 million for the fiscal year ended August 26 as compared with $8.2 million last year. However, additional non-recurring income from the sale of fixed assets amounting to $1.2 million after taxes, brings profits to a total of $6.4 million. Net sales for the year were $144.3 million as compared with $156.9 million in 1960.

Boston, Mass. — A sharp upswing of business in July and August has helped The Kendall Co. post increases in both sales and earnings for the third 12-week period of 1961. Total sales jumped to $29.4 million for the period—an increase of 18% over the $25 million total for the similar period in 1960. The major part of the increase came from sales of the company's Curity nursery products and improvement in textile activity, particularly in apparel fabrics. Kendall's sales for the first 36 weeks of 1961 totalled $82.1 million compared to $76.8 million for the similar period of 1960.

Hogansville, Ga.—The eighth expansion and modernization project to be undertaken by United States Rubber Co.'s textile division this year will get underway immediately at the company's Stark Mills here. This latest expansion and modernization project is to cost approximately $1 million and will be completed within a year. Synthetic chenille yarns made at the plant are used in the manufacture of bedspreads.

North Little Rock, Ark.—In two and a half years the North Little Rock plant of Chicopee Mfg. Corp. has compiled a record of one million man hours without a single lost-time injury. Honoring this achievement, the Chicopee President's Plaque has been presented to Elmer J. Yedlick, plant manager, at a luncheon attended by the company's board of directors and local plant management.

Kernersville, N. C.—Burlington Industries has announced that it will discontinue its weaving operations here and will consolidate the operation in other nearby Burlington plants. Vance Hosiery Co., also a unit of Burlington, is to move its knitting operations into the plant when vacated. The move is expected to take several months to complete.

Turnersburg, N. C.—Rocky Creek Mills has announced that plans for a sizeable expansion have been made to allow an increase in volume and diversification in types of yarn. Marion Mfg. Co., Marion, N. C., recently purchased Rocky Creek after having leased the mills since 1955. The company currently produces coarse synthetic yarns at about 150,000 pounds per week.

Swainsboro, Ga. — Calvine Mills has purchased two large buildings for the construction of a new mill here. The new installation is expected to double Calvine's production capacity which is now approximately 125 million yards of cotton goods annually. The plant is part of an expansion program necessitated by increased business and is scheduled to begin operations in six months. It is located on a 20-acre site and contains approximately 183,000 square feet of floor space. The two buildings will be connected to form one unit.

Alexander City, Ala.—Russell Mfg. Co. has announced that it will receive the first Rovematic roving frame built by Saco-Lowell Shops, Easley, S. C. The company's order for these units calls for a total of 17. The cost of the Rovematic is in excess of $25,000, depending upon the number of spindles. This cost is about 50% higher than conventional frames, according to Saco-Lowell officials. However, the production is reported to be some 65% greater than that of a conventional unit.

Baltimore, Md.—Mt. Vernon Mills and Turner Halsey Co., New York City, have announced plans to merge Turner Halsey into Mt. Vernon, subject to approval of a Mt. Vernon stockholders meeting on November 8 and a similar one for Turner Halsey's stock-

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holders on November 6. Terms of the proposal call for the exchange of six shares of Mt. Vernon common stock for one share of Turner Halsey common stock. Mt. Vernon has had control of the outstanding common stock of Turner Halsey for many years. No personnel changes are scheduled for Turner Halsey as a result of the merger and it will continue to operate as in the past.

Shelbyville, Tenn.—Nylon and rayon tire cord production has been automated at the United States Rubber Co. plant here with a 224-spindle unit of the Clarkson Cord Former. The unit is designed to wind and form either nylon or rayon tire cord in a single operation. Previously, three separate machines were required to perform the same operation. The machine was invented by R. J. Clarkson, one of the company's textile development engineers. A pilot machine has been in successful operation at the company's Winnsboro, S. C., plant for the last two years. The installation at Shelbyville is the first production unit.

Lumberton, N. C. — Fire has rendered Calvine Mills' plant here completely inoperative. Estimated damage to the structure and equipment is quoted at some $2.5 million to $3.0 million. Calvine has announced plans to rebuild the plant since it was fully insured. The fire was mainly centered in the spinning and slashing rooms and has left the carding and weaving operations disrupted. The blaze was reported to have started when an electric motor on a spinning frame exploded. Calvine purchased the plant some six years ago under a lease-purchase plan. Some 80% of the debt had been paid.

Spartanburg, S. C.—Deering Milliken Inc. has completed installation of a private telephone system between offices in New York and the Deering Milliken Service Corp., here. The network is to include associated mills and is to be installed in phase two and three of a three-phase plan. When completed, all Deering Milliken associated mills can communicate instantaneously with each other.

Gastonia, N. C.—F. A. Young Machine Co. has announced the receipt of three orders from Southern mills for twisting and spinning equipment. U. S. Rubber Co., Dixon Plant, Gastonia, has awarded a contract to Young for 13 specially designed twisters. LaFar Mills, Bowling Green, S. C., has ordered modernization for 43 spinning frames. Bama Cotton Mills, Enterprise, Ala., has contracted for N.Y.A.F. high-draft spinning changeovers.

New York, N. Y.—Both sales and net profits of Indian Head Mills showed improvement in the third quarter of its fiscal year over those of the comparable period last year. Sales rose to $24.6 million in the three months ended September 2, from $19.9 million in the corresponding quarter of last year. Net profits advanced to $1,037,000 compared with $783,000 in 1960. In the nine months ended September 2, sales totalled $68 million compared with $50.6 million in the first nine months of the previous fiscal year. Net profits were $2.6 million compared with $2.2 million last year.

Trion, Ga. — Riegel Textile Corp. has closed its Trion Department Store. The store had been operated by Riegel and its predecessors for over 100 years. The building is to be used by Riegel for its Trion Division for manufacturing.

Glendale, S. C. — William Barrell Co. has purchased the Glendale Division of Indian Head Mills for an undisclosed price. Plans for the plant are indefinite. The building is of two, three and four-story design and contains some 255,000 square feet. Equipment includes some 35,000 spindles and 1,000 looms. Before the sale, the plant produced drills, prints and broadcloths. Indian Head Mills acquired the Glendale Plant, here, in a merger with J. L. Stifel & Sons Co. in 1957 and has continued to operate the plant, which has employed some 300 people since that time. Indian Head Mills had announced earlier that if the plant were not sold or leased to another company, the operation would be run out in an orderly manner, taking several months.

Philadelphia, Pa.—The Military Clothing & Textile Supply Agency of the Philadelphia Quartermaster Center, U. S. Army, has let eight contracts for 26,666,640 square yards of cotton, 8.8 oz. max. wgt. per square yard, OG-107, 30, 40, 42 and 45" width, sateen cloth. Firm, quantity, price range and dollar value are as follows: Cone Mills Corp., 1,054,500 square yards, $0.5930, $625,318; Erwin Mills Inc., 6,702,418 square yards, $0.5493-.5962, $3,757,848; Riegel Textile Corp., 3,500,000 square yards, $0.5864-.5909, $2,057,650; J. P. Stevens & Co., 10,555,556 square yards, $0.590463, $6,232,665; Wellington Sears Co., 1,250,000 square yards, $0.5755-.5905, $728,187; Mount Vernon Mills, 1,166,666 square yards, $0.568, $662,666; Prestex Inc., 1,250,000 square yards, $0.5805-.5972, $736,062; and C. M. London Co., 1,187,500 square yards, $0.5769, $685,068. Bids were solicited from 125 firms, with 67 competing.

Sylacauga, Ala.—Avondale Mills has reported earnings for the year ending August 31 of $2.3 million compared with $2.1 million last year. Sales for 1961 were $56.2 million. Profits for the period do not include figures for Pepperton Cotton Mills, Jackson, Ga., which Avondale purchased during the year. Unfilled orders at the beginning of the current fiscal year were up some 61%. According to J. Craig Smith, president and treasurer, there will be difficulty in maintaining profit margins due to the increased cost of cotton and the difficulty faced in attempting to raise prices. Avondale has completed over half of its two-year modernization plan to spend $8.5 million. The Catherine Mill has been completely air-conditioned, and 130 new spinning frames, new high-speed drawing equipment and 260 cards have been installed. The Pell City Plant has had 250 looms installed from Catherine and 350 new dobby looms are being delivered. The Eva Jane Plant has absorbed more than 50% of the former Pell City production. At the Birmingham plant, 72 box looms have been added. The Sycamore Plant has new ball bearing spindles and large spinning rings installed. The Lafayette mill is now equipped with large-package, wide-gauge spinning with mechanical frame cleaners and sweepers installed. In addition, this plant has had its 1,384 cards equipped with metallic clothing. Avondale has recently placed a contract with Saco-Lowell Shops calling for 44 Rovematic roving frames valued at over $1 million. Some

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Statement Required by the Act of August 24, 1912, As Amended by the Acts of March 2, 1933, and July 2, 1946 (Title 39, United States Code, Section 233), Showing the Ownership, Management and Circulation of Textile Bulletin, published Monthly at Charlotte, N. C., November, 1961.

State of North Carolina
County of Mecklenburg

Before me, a Notary Public in and for the state and county aforesaid, personally appeared Junius M. Smith, who, having been duly sworn according to law, deposes and says that he is the General Manager of Textile Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 2, 1933, and July 2, 1946, embodied in Section 233, Postal Laws and Regulations, to wit:

That the names and addresses of the publisher, editor and general manager are:

Publisher, Clark Publishing Co., Charlotte, N. C.; editor, Jack Kissiah, Charlotte, N. C.; managing editor, Jack Kissiah, Charlotte, N. C.; general manager, Junius M. Smith, Charlotte, N. C.

That the owner is: Clark Publishing Co., Charlotte, N. C.; John W. Clark, Trustee, Concord, N. C.

That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages, or other securities are: None.

That the average number of copies of each issue of this publication sold or distributed, through mail or otherwise, to paid subscribers during 12 months preceding date shown was: 9,744.

(Signed) JUNIUS M. SMITH,
General Manager.

Sworn to and subscribed before me this 2nd day of October, 1961.

J. F. ECKARD,
Notary Public.

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28 of these units are to be installed in the Catherine Plant. Older 10x5 units are to be discarded. The other 16 Rovematics in 72-spindle units will be installed at the Eva Jane Plant. These units are replacing 27 1956 Saco-Lowell FS2 frames which are to be moved to Birmingham. Shipments of the frames will begin this month.

Gastonia, N. C.—Production facilities at U. S. Rubber Co.'s cotton yarn plant here will be increased 35% within a year. The company reports the expansion program will be started immediately to keep pace with the growing demand for Vyrene, the company's new synthetic elastic thread. The cotton yarn manufactured at Gastonia is used to cover Lastex and Vyrene thread. Cotton yarn is manufactured by U. S. Rubber in one Gastonia plant; Vyrene and Lastex in another. An expansion program that doubles Vyrene manufacturing facilities was announced recently.

New York, N. Y.—United Merchants & Manufacturers reports consolidated net profits of $9.8 million for the fiscal year ended June 30 compared with $14.3 million the last fiscal year. Net sales were $471.6 million for the period against $468.2 million in 1960. In reporting to stockholders, M. R. Haskel, president, and J. W. Schwab, board chairman, said that while profits were less than last year, the company considered it to be one of accomplishment. They noted that a number of new projects were started, plants showed considerable improvement and finances were put in condition to cope with plans for enlarged activity. In addition, the officers reported that general conditions in the textile markets were slightly better and that the company's backlog of orders was larger than at this same time last year.

Belmont, N. C. — Aberfoyle Mfg. Co. has announced that its new million dollar addition is now open on a pilot plant basis. The plant is scheduled to reach full production the first of 1962. It will have Gaston County Dye Machine package dyeing equipment to dye and bleach yarns of all types.

Textile Industry Schedule

For additional data (reservation requirements, membership requirements, program details, etc.) on activities listed here, contact name(s) shown in parentheses.

Nov. 1-2 (W-Th)—Annual meeting, Textile Engineering Division, American Society of Mechanical Engineers, Massachusetts Institute of Technology, Cambridge, Mass. (Chairman: Prof. Elliot B. Grover, School of Textiles, North Carolina State College, Raleigh.)

Nov. 8-9 (W-Th)—Chemical Finishing Conference, sponsored by the National Cotton Council, Sheraton Park Hotel, Washington, D. C. (National Cotton Council, Ring Bldg., Room 502, 1200-18th St., N.W., Washington 6, D. C.)

Nov. 9—(Th)—Fall meeting, Piedmont Division, Southern Textile Association, Johnston Memorial Y.M.C.A., Charlotte. (Chairman, J. W. Inscoe, Carolina Mills Inc., Maiden, N. C.)

Nov. 13-14 (M-Tu)—Annual meeting, Narrow Fabrics Institute, Statler Hilton Hotel, New York City (Narrow Fabrics Institute, 271 North Ave., New Rochelle, N. Y.)

1962

Jan. 6 (Sa)—Winter meeting, Board of Governors, Southern Textile Association, City Club, Charlotte, N. C. (S.T.A., P. O. Box 1225, Charlotte 1, N. C.)

Jan. 11-12 (Th-F)—13th annual Cotton Research Clinic, The Carolina Hotel, Pinehurst, N. C. (National Cotton Council, Ring Bldg., Room 502, 1200-18th St., N.W., Washington 6, D. C.)

Jan. 22-25 (M-Th)—National Plant Engineering & Maintenance Show, Convention Hall, Philadelpia, Pa. (Clapp & Poliak Inc., 341 Madison Ave., New York 17, N. Y.)

Feb, 15-16 (Th-F)—Annual conference, Textile and Needle Trades Division, American Society for Quality Control, Clemson House, Clemson, S. C. (General Chairman: W. S. McMann, Dan River Mills, Danville, Va.)

Mar. 29-31 (Th-Sa)—Annual meeting, American Cotton Manufacturers Institute, Palm Beach Biltmore Hotel, Palm Beach, Fla. (A.C.M.I., 1501 Johnston Bldg., Charlotte 2, N. C.)

April 11-13 (W-Th)—Spring meeting, Textile Engineering Division, American Society of Mechanical Engineers, together with **The Fiber Society, Raleigh, N. C.** (Chairman: Elliot B. Grover, School of Textiles, North Carolina State College, Raleigh.)

Apr. 28 (Sa)—Spring meeting, Northern North Carolina-Virginia Division, Southern Textile Association, Morehead High School, Leaksville, N. C. (Chairman: A. L. Joslin, Dan River Mills, Danville, Va.)

May 2-5 (Tu-F)—Annual outing, Carolina Yarn Association, Pinehurst, N. C. (Exec. Sec.: Frank P. Barrie, P. O. Box 11411, Charlotte, N. C.)

May 23-25 (W-F)—Thirty-second annual North Carolina Statewide Industrial Safety Conference, Battery Park Hotel, Asheville, N. C. (H. S. Baucom, Director of Safety, North Carolina Industrial Commission, Education Building, Raleigh, N. C.)

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday; (Su) Sunday

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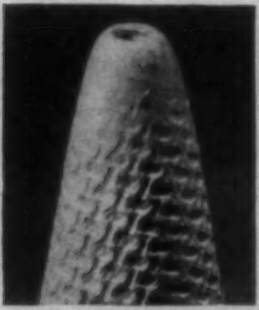
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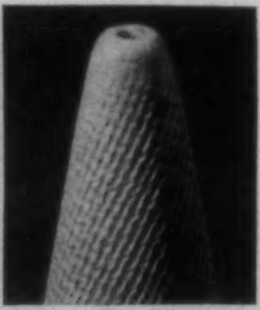
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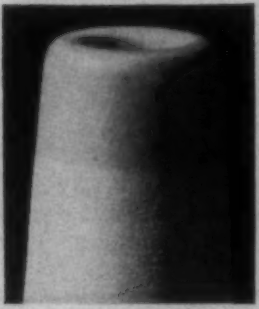
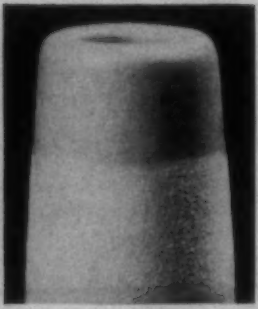

Velvet Surface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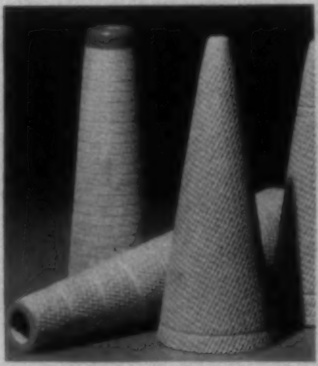
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Editor . . . . Jack Kissiah
Associate Editor . . . . Gene Lockey
Associate Editor . . . . Marjorie Dumbell
Inquiry & Reader Service . . . . . Jacqueline Russell

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Junius M. Smith . . . . . . *President and General Manager*
F. R. Carey . . . . . . *Vice-President and Eastern Manager*
(P. O. Box 10, Warwick, R. I.—Telephone TUrner 4-9624)
Margaret R. Elliott . . . . *Secretary-Treasurer*
James L. Prendergast . . . . *Advertising Manager*
George C. Finn . . . . *Advertising Representative*
(271 Valley Rd., Cos Cob, Conn.—Telephone NOrmandy 1-8709, Greenwich, Conn.)
James W. Robinson . . . . *Circulation Manager*
Miriam W. Scruggs . . . . *Production Manager*
Ben C. Thomas . . . . . . *Field Circulation Representative*

TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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"I'M proud to admit that the textile industry is the most bitterly competitive U. S. industry, and because of it, we are probably the most efficient U. S. industry. The acid proof of it is that our prices and values are better than ten years ago, while the prices of, say, steel and autos have soared. We've kept productivity in line with cost advances."

With that quote, J. Spencer Love of Burlington Industries took aback the writer of an article ("The Fine Art of Prospering in Textiles") in a recent issue of *Forbes* (Oct. 15, '61), who apparently can count himself among those who believe the textile industry to be second in backwardness only to the flight of the bumble bee.

Business writers' concepts to the contrary, survivors of the last ten years in textiles can in the coolness of a cold sweat attest to the crush of competition that has floored mills which, unlike Burlington, haven't been able to keep productivity in line with rising costs. The consensus most likely would be that if there is human endeavor anywhere more competitive than textiles it should be outlawed. Those that have persisted in pursuit of the textile trade have obviously been able to do so by virtue of being more efficient and more flexible than their rivals.

As of the moment the pressure of this competition isn't likely to ease, not even with the anticipated acceleration of the upswing in shipments and productive activity that is now gently getting underway in some segments of the industry.

Thus it is with all due enthusiasm that mills are viewing the revised depreciation schedules for textile machinery announced by President Kennedy the middle of October. The revision can be a real and significant means for the industry to use in facing the tough competition in this country, and in standing up better to the even tougher assignment of offsetting some of the advantages low-wage foreign competitors now hold.

What some critical observers of the textile industry have neglected to take into account in sniping at the industry for its "backwardness" is the fact that the domestic mills have sought revisions in the previous unrealistic Schedule F primarily to bring them more in line with write-off periods afforded foreign mills by their governments. The new schedules fall a bit short of that, but they were expected to narrow rather than close the gap.

The revisions have been hard to come by. They culminate the efforts of a good many people over a number of frustrating years. And they represent the first concrete move on the part of the Kennedy Administration to implement the President's seven point program announced last May (T. B., June '61, P. 81).

Encouraging as this news is, it still covers but one of the seven points of the President's program. Remaining high on the priority list are the problems of working out realistic agreements at the G.A.T.T. roundtable, and the equally thorny issue of two-price cotton. However favorable these actions may eventually be for the industry, they're not likely to disqualify Mr. Love's claim that the textile industry is the nation's most bitterly competitive and, business writers take note, most efficient industry.

Revised Estimates Of Write-Off Periods

Type	Old Bulletin F	Revised Schedule
Opening, blending	30	15
Cards	30	15
Combers	25	15
Drawing frames	25	15
Roving frames	25	15
Spinning frames	30	15
Twisters	15-25	15
Winders	25	15
Slashers	25	15
Looms	25	15
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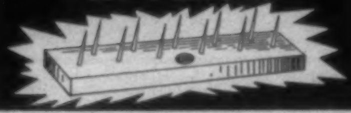

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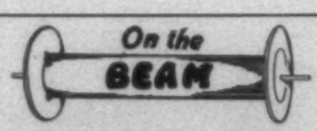

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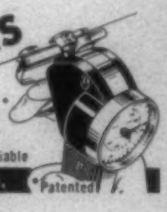

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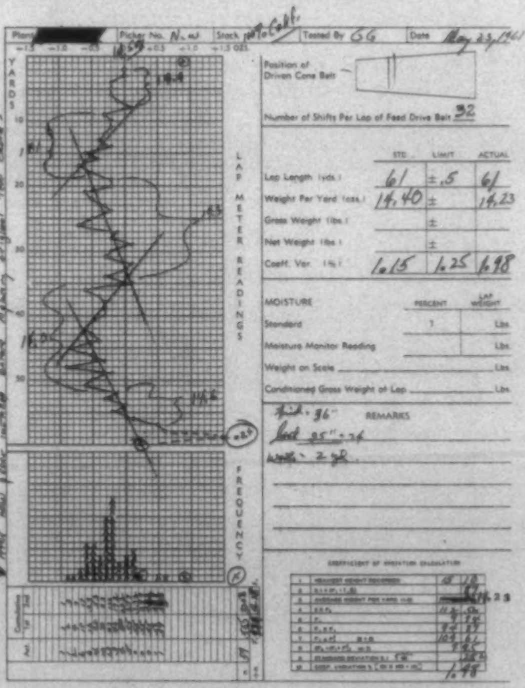

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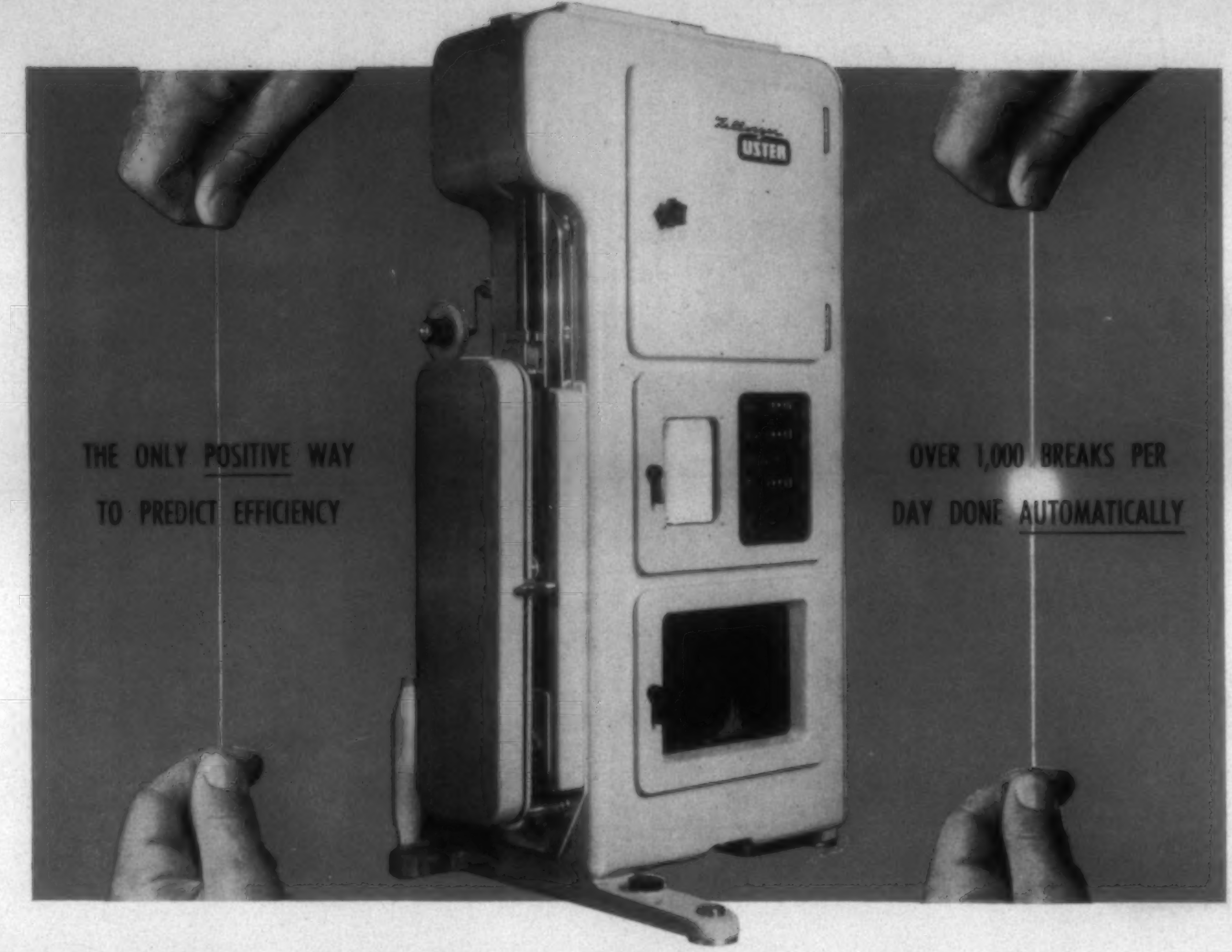
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